

THE KANSAS INDUSTRIALIST

Volume 42

Kansas State Agricultural College, Manhattan, Saturday, September 25, 1915

Number 1

EXPERTS TO TEACH HERE**SPECIALISTS FOR COLLEGE SECURED FROM ALL PARTS OF COUNTRY**

Edward C. Johnson Succeeds J. H. Miller as Dean of Extension—Few New Department Heads—Numerous Faculty Members Receive Promotions

Expert specialists in a number of important subjects are among the new faculty members in the Kansas State Agricultural college. Men and women of special knowledge from all parts of the United States have been sought to fill vacancies on the board of instruction. New department heads, however, are few. The new faculty list shows a number of promotions.

The most important change took place in the deanship of college extension. J. H. Miller, who had built up the division to a high stage of efficiency, resigned to accept a much more lucrative place in the University of Arkansas. Edward C. Johnson, superintendent of institutes, was elected to fill the vacancy.

HAS MANY QUALIFICATIONS

Dean Johnson is a man of high scholarship as well as wide practical experience. He holds both bachelor's and master's degrees from the University of Minnesota, where he was at one time instructor in botany. He has also taken graduate work in George Washington University. He was for a number of years plant pathologist in charge of cereal disease investigations for the United States department of agriculture. He came here in 1912 to become superintendent of institutes and demonstrations, and has been highly successful in this work. He is popular in both the college and the state at large.

M. G. Burton becomes director of correspondence work, succeeding J. C. Werner, who resigned to accept the headship of the education department in the Idaho State Normal school. Mr. Burton is a specialist in home and community problems. In an Indiana township high school, his pupils built a gymnasium and constructed equipment for it, while at the same time a home economics department and a school farm were conducted. He is author of "Shop Projects Based on Community Problems," a book which tells the boy how to make all sorts of objects from kites and other playthings to bookcases and farm equipment.

BURTON HAS PRACTICAL EQUIPMENT

Mr. Burton obtained his scholastic training in Washington Township (Ind.) high school, Union Academy, and Indiana university. He served an apprenticeship under a contractor and builder and is also a printer. He has had experience in teaching in rural and village schools and high schools, has been dean in a normal school, and has been superintendent of city school systems.

Arthur E. Westbrook is director of music and professor of voice, succeeding Olof Valley, resigned. Mr. Westbrook, who holds the degree of master of arts in music from Albion college, has had extensive experience in public school music. For four years he was in charge of public school music in Boise, Idaho, and director of the community music work under the direction of the state commissioner of education. He was last year professor of music in charge of public school music in Northwestern university. He turned down an offer of a professorship at De Pauw university to accept the work here. In addition to his qualifications as a community music leader, he is a most pleasing baritone soloist.

TO DEVELOP RURAL BUILDING

To develop a type of architecture suited to the rural conditions of Kansas will be the purpose of W. A. Etherton, who has just been appointed professor

of rural architecture in the Kansas State Agricultural college. He inaugurates special work in his line here, as he did in the federal department of agriculture.

Mr. Etherton, who was until this month specialist in rural architecture in the United States department of agriculture, is a graduate of the Kansas State Normal school and of the University of Illinois, holding from the latter the degrees of bachelor of science in architecture and master of architecture. He has also engaged in graduate study of his specialty in the Massachusetts Institute of Technology. He was formerly professor of architectural engineering in the Oklahoma Agricultural and Mechanical college.

SPEAKER AND ATHLETE TOO

J. G. Emerson becomes instructor in charge of public speaking. He holds a bachelor's degree from Iowa State college, a master's degree from Harvard university, and the degree of juris doctor from Leland Stanford university. Doctor Emerson is an excellent public speaker, having received many honors in debate and oratory, including the peace prize at Stanford. He was a champion hurdler in college.

N. A. Crawford, who has been in charge of the journalism department for a year and a half, becomes professor of industrial journalism and superintendent of printing.

M. F. Ahearn, who has been associate professor of horticulture, becomes professor of landscape gardening.

Theodore Macklin has been made instructor in rural economics, succeeding E. D. Baker, who resigned. Mr. Macklin was brought up on an Iowa farm and graduated in agriculture from the Iowa State college. He afterward spent three years in study of economics, chiefly rural economics, in the University of Wisconsin. He has expert knowledge of marketing, transportation, and other business problems of the farmers.

THE LIST OF NEW ONES

Following are the names of members added to the board of instruction since the issue of the latest catalogue: Patricia Abernethy, assistant in music; C. E. Aubel, fellow in animal husbandry; A. F. Baird, assistant in physics; O. H. Brown, assistant in shop practice; M. G. Burton, director of correspondence; Jane Cape, assistant in domestic science; Edgar V. Collins, assistant in steam and gas engines; Robert W. Conover, assistant professor of the English language; John D. Cooke, instructor in the English language; Robert Copple, student assistant in physical training; Lee R. Dice, assistant in zoology; Arthur Doryland, deputy state dairy commissioner; Fanny Dunlap, cataloguer in library; Hugh Durham, assistant to dean of agriculture; W. A. Etherton, professor of rural architecture; J. G. Emerson, instructor in charge of public speaking; Blanche Enyart, assistant professor of physical training for women; Mildred French, assistant in domestic art; David Gray, assistant in animal husbandry; Isa A. Green, instructor in home economics; Florence Hague, temporary assistant in zoology; W. A. Hagan, assistant in pathology; Helen Hahn, assistant professor of home economics and education; Carl S. Hoar, assistant in botany; Ethel M. Loring, assistant in physical training for women; J. R. McClung, assistant in chemistry; A. E. McClymonds, assistant instructor in agronomy; Theodore Macklin, instructor in rural economics; L. B. Mann, fellow in animal husbandry; Hazel Marsh, assistant in library; Clyde Mullen, fellow in agronomy; Frank E. Mussehl, assistant in poultry husbandry; N. E. Olson, assistant in dairy husbandry; Kurt Peiser, assistant in bacteriology; Alice Poultier, assistant in home economics in extension; Dr. C. A. Pyle,

(Concluded on Page Four)

THEY ALL WANT WATERS**BIG ASSOCIATIONS SEEK ADDRESSES BY PRESIDENT OF COLLEGE**

Executive Gets Fresh Honors at Educational and Scientific Conventions in Far West—Speaks Before Teachers and Students.

Dr. Henry Jackson Waters, president of the Kansas State Agricultural college, spent a busy summer. When he wasn't making a speech, he was on his way to make one or was presiding over some committee or making a report to some scientific or educational body.

And the president is still busy. His addresses on agricultural and rural

ing the address he was elected to membership in the Phi Kappa Phi society, which stands for scholarship in agriculture, science, and literature.

MAKES PRESIDENTIAL ADDRESS

President Waters spent a month of the summer in the far west where he made frequent addresses before learned organizations. He gave the presidential address before the American Association for the Promotion of Agricultural Science, on the subject, "The Permanency of the American Agriculture." Before the engineering section of the American Association of Agricultural Colleges and Experiment Stations, he gave an address on "The Administration of an Engineering School." He was made chairman of

OLD WHEAT FOR SEED**THIS YEAR'S CROP SHOWS LOW GERMINATING POWER**

Agronomy Department Tells of Results of Tests of Samples from All Parts of Kansas—Farmer Should Not Take Chances

Old wheat that has been carefully stored will make better seed than most of the wheat that has been harvested this summer, according to L. E. Call, professor of agronomy in the Kansas State Agricultural college.

Within the last two weeks the agronomy department has received nearly 150 samples of wheat for germination tests. Samples have come from practically every section of the state. Old as well as new wheat was sent.

Since these samples have been received 20 germination tests of old wheat have been completed and 109 tests of new wheat. The average per cent of germination for the old wheat (crop of 1914) was 88, while the poorest sample of old wheat gave a test of 75 per cent. Practically all of this wheat was strong enough in vitality to make seed of good quality.

MANY UNFIT FOR SEED

The average per cent of germination for the new wheat was only 66 per cent and a number of samples were secured where only 7 to 10 per cent of the kernels grew. Fully two-thirds of the samples of new wheat were so low in vitality that they were unfit for seed. These samples were obtained as a rule from lots of wheat that farmers had expected to plant and therefore represented usually the best wheat at the farmer's disposal.

"There is in most communities," said Mr. Call, "sufficient old wheat for seed. Where this grain has been properly stored it will make good seed and should as far as possible be planted. New wheat should not be planted unless it has been tested and is definitely known to be good."

TEST IS EASY TO MAKE

"A germination test can be easily made. The wheat may be planted for a test in moist soil by hand or with a drill, or from 100 to 200 kernels may be rolled up in a moistened cotton flannel cloth and placed in a moderately warm room where the temperature will not fluctuate greatly and where the cloth will retain the moisture. The cloth should be moistened each day or as frequently as necessary. At the end of a week the kernels that have started to grow may be counted out and the per cent of germination obtained."

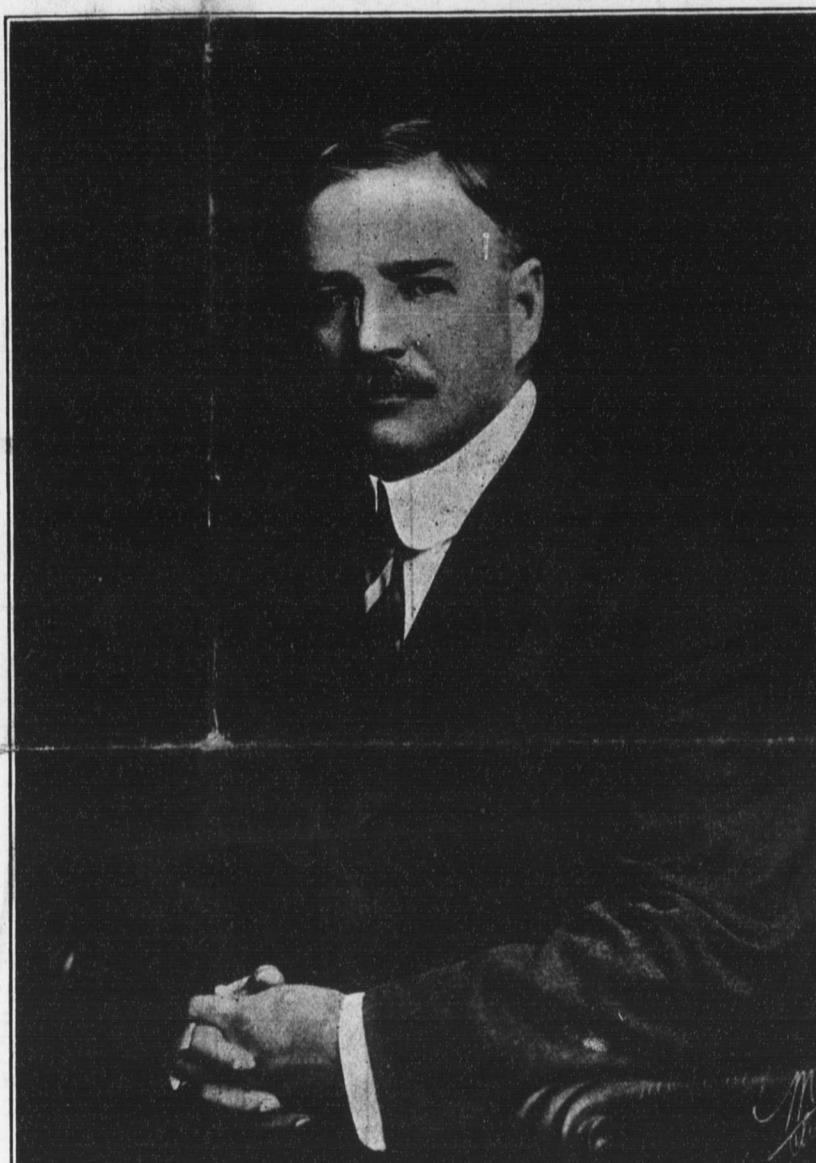
"Wheat that has strong vitality will give a germination test of from 90 to 95 per cent. It is not advisable to plant wheat that has a germination test of less than 75 per cent unless better seed cannot be obtained. If wheat of low vitality is planted it should be sown correspondingly thicker."

COLLEGE ENROLMENT SHOWS INCREASE OVER LAST FALL**Assignment of Students Facilitated by Adoption of Time-Saving Methods**

The enrolment in the Kansas State Agricultural college at the close of the second week of school is 2,211, a slight increase over that of the same date last fall.

Assignment of students began Monday, September 13, a day earlier than usual. Wednesday evening when the small army of assigners and checkers finished their work in Nichols gymnasium an increase of nearly 500 was shown over the figures for Wednesday evening of the corresponding week in 1914. Assignment of freshmen by sections, suggested by Prof. A. E. White of the schedule committee, resulted in saving much time.

Freight rates on cotton from New Orleans to Liverpool are now two and a half times normal.



PRESIDENT H. J. WATERS

life subjects and his ability as a presiding officer have made a hit, and he is constantly having new honors thrust upon him. Requests for addresses come from scientific organizations, colleges and universities, farmers' societies, and business organizations. And every little while an organization decides it wants him for its president.

TALKS AT MANY COLLEGES

Among college speeches made by Doctor Waters in the past summer were the commencement address at the Oklahoma Agricultural and Mechanical college, the Phi Kappa Phi fraternity address at the Iowa State college, and lectures before the summer session of the Kansas State Agricultural college, of the University of Chicago, and of the Texas Agricultural college. At Chicago President Waters gave three addresses to the university students on "What Society Owes to the Farmer." In the same week, he was a guest of the American Bankers' Association, which held its annual meeting in Chicago. His addresses at Texas were on "A System of Animal Husbandry for the South," "The Tenant Problem," "Co-operation Among Farmers," "Teaching Agriculture in the Secondary Schools," "Farming in the Orient," and "The Development of Manufacturing Industries as an Aid to Farming." At Ames Doctor Waters' subject was "The Future of American Agriculture." A few days after mak-

the executive committee of the association, and chairman also of the section on college administration. "Wastes in American Agriculture" was the subject of his address before the American Association of Farmers' Institutes.

HEADS NOMINATING COMMITTEE

Before the International Educational congress, held at the Panama-Pacific International exposition, he made an address on "Agricultural Education," which has been widely recommended. He spoke on "The Preparation of Rural School Teachers Through Agricultural Colleges," at the rural school section of the National Educational association. He was further honored by appointment as chairman of the nominating committee of the National Education association, the most conspicuous educational organization in the United States.

Doctor Waters is president of the International Wheat show, to be held at Wichita. He was last year president of the International Dry Farming congress and is now active in its councils.

The latest reports from the United States department of agriculture show general crop conditions in the country to be somewhat above the average for this time of year.

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N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

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SATURDAY, SEPTEMBER 25, 1915

The fact that Kansas got plenty of irrigation in the summer is not a reason for staying away from the irrigation congress at Garden City next month.

The one bright spot in all the European muddle is the fact that no one has yet had the nerve to say "I told you so" about a single military development.

A Canadian relative has been discovered of the man who still votes for Andrew Jackson for president. The Toronto Mail and Empire tells of a Montreal citizen who addressed an official letter to a cabinet minister that has been out of office for a quarter of a century.

THE INDUSTRIALIST has just received a story about the foremost agricultural organization in the world—the fourteenth such association that has come to notice up to date. Foremost agricultural organizations are getting nearly as common as America's greatest newspapers.

THINKING STRAIGHT

"The principal purpose of agricultural education," said President Henry Jackson Waters in a recent address, "is to teach people to think straight on all matters pertaining to agricultural production and rural life."

Teaching people to think straight is not, however, a problem of agricultural education alone. It is a problem of all education. The difficulties that beset us as individuals and in community and national life are for the most part due to lack of straight thinking. Inefficient production, industrial accidents, the election of unfit men to office, and hundreds of other common difficulties are due at bottom to the fact that somebody failed to think straight.

Even in the moral realm, straight thinking would straighten out many things. While it is true that people ought to do right simply because it is right, many men and women who consistently do wrong would change their habits if they merely thought straight—if they thought out the logical and inevitable final consequences of their acts.

The schools should emphasize straight thinking. They should teach the pupil to be a reasoner instead of a mere computer in arithmetic, a student of causes instead of a rememberer of dates in history. They should teach him to think straight also in everyday life—in the home, on the street, as well as in the schoolroom. Straight thinking is the biggest need of the time.

ABOUT AGRICULTURAL FAIRS

The big thing about agricultural fairs is not what the visitor sees, but the stimulus that he gets toward better agricultural practice, and the sympathy he gets with modern, progressive farming.

Both of these last mentioned points are worth while to the farmer. The last one is of importance also to the city man, for the city must more and more understand and sympathize with the best ideals of farming and rural life.

It is a good thing that catchpenny

amusements are being reduced in number at fairs. Merry-go-rounds and Ferris wheels and roller coasters are all right if they are safely built, but they are not the reason why sensible people go to fairs. And the vaudeville houses in any fairly large city give better shows than most of the amusement companies that operate at fairs. These features, if they are many in number, are bound to take people's minds away from what ought to be observed at a fair.

PLEASING THE CRITICS

Not content with eliminating the mention of the present war from their schoolrooms, one or two cities have recently prohibited the discussion of peace in school classes. The idea is that some parents favor war and others favor peace, and that the children of the respective adherents of Mr. Roosevelt and Mr. Bryan might have their feelings wounded or their opinions changed or might even get into acrimonious controversy in the schoolroom.

If everything that somebody questions is to be eliminated from the schools, education will soon reach the pleasant plight of the oft-mentioned fish seller, who had on the front of his shop the sign, "Fresh Fish for Sale Today." The first passer-by suggested the omission of "today" in the sign, the next one the "for Sale."

"You don't need the word 'Fresh,'" said the next man who came along. "Nobody'd buy your fish if they didn't suppose they were fresh, anyhow."

The fish seller was an acquiescent sort, and by this time all that he had on his sign was "Fish." An acquaintance dropped in for a moment.

"I don't see why you need that sign," he remarked. "Anybody would know you were selling fish, from the smell."

UPLIFT FOR UPLIFT'S SAKE

The vague and hysterical desire to "uplift" one's self merely for exaltation's sake is about as effective an engine of moral progress as the effort to lift one's self in the air by a terrific hitching up of the breeches.

The same creed has its physical side. It parades the Body, with a capital B, as also a thing that must be developed; and this, not for any ulterior thing that may be effected by it but presumably as an end in itself. The Monk or the Good Man of the older day despised the body as a thing that must learn to know its betters. He spiked it down with a hair shirt to teach it the virtue of submission. He was of course very wrong and very objectionable. But one doubts if he was much worse than his modern successor who joys consciously in the operation of his pores and his glands, and the correct rhythmical contraction of his abdominal muscles, as if he constituted simply a sort of superior sewerage system.

I once knew a man called Juggins who exemplified this point of view. He used to ride a bicycle every day to train his muscles and to clear his brain. He looked at all the scenery that he passed to develop his taste for scenery. He gave to the poor to develop his sympathy for poverty. He read the Bible regularly in order to cultivate the faculty of reading the Bible, and visited picture galleries with painful assiduity in order to give himself a feeling for art. He passed through life with a strained and haunted expression waiting for clarity of intellect, greatness of soul, and a passion for art to descend upon him like a flock of doves. He is now dead. He died presumably in order to cultivate the sense of being a corpse.—Stephen B. Leacock in the University Magazine.

FACTS ARE WANTED

The business man of today wants facts rather than generalities when he talks with a publisher or his representative about his newspaper as an advertising medium. He is no longer satisfied with such statements as "we have a larger circulation than any of our rivals," "we reach the best families in our territory," or, if it is a trade or class paper, "our subscribers include the very people before whom

you want to present your proposition."

What he wants to know is the exact circulation and its character, by whom your paper is read, their buying capacity, what the chances are that the money spent on it will bring satisfactory returns. In other words, he wants to be convinced that the medium possesses real value from an advertising viewpoint.—Editor and Publisher.

BANKERS AND AGRICULTURE

It behooves every banker to study and interest himself in agricultural

vice to be of value should be based upon definite knowledge.—George T. Wells in Dry-Farming and Rural Homes.

FOR PAINTING BUILDINGS

For the benefit of those who may want to paint their buildings with different tints or shades, the following suggestions will be helpful:

Red and black make brown.
Lake and white make rose.
Red, blue, and black make olive.
White and brown make chestnut.
White, blue, and lake make purple.
Blue and lead color make pearl.

THE SALT OF THE EARTH

Algernon Charles Swinburne

If childhood were not in the world
But only men and women grown;
No baby-locks in tendrils curled,
No baby-blossoms blown;
Though men were stronger, women
fairest,
And nearer all delights in reach,
And verse and music uttered rarer
Tones of more godlike speech;
Though the utmost life of life's best
hours
Found, as it cannot now find, words;
Though desert sands were sweet as
flowers,
And flowers could sing like birds,
But children never heard them, never
They felt a child's foot leap and run;
This were a drearier star than ever
Yet looked upon the sun.

SUNFLOWERS

Some people are so internally proud of their individualities that they think themselves real cute.

What has become of the old newspaper reporter who always had a locomotive engineer "leap into the cab"?

REDUCING THE NUMBER

An automobile ought not to have any more cylinders than its owner has brains.

PRUNES, PERHAPS?

This unnatural father and husband receives his just dessert.—A Kansas newspaper.

It is generally admitted in the United States that the rest of the world is at odds with the divine plan of things and well on its road to the eternal bow-wows.

DOESN'T LIVE UP TO IT

Bangs is the name of the new music professor in the University of Montana. No, Gertie, he's not a pianist, but you're a clever little guesser, just the same.

A BASEBALL, NOT AN APPLE

Inspired by a baseball game, a European dancer invented a new dance that she calls "The Temptation of Eve." That's putting ancient history into modern form, all right.

Modern education faces the task of fitting boys and girls to take their places in an intricate, specialized social group in which everybody delegates himself to attend to everybody else's business.

William Marion Reedy says in the Mirror that movie dramas "are beyond the limit of fantastic impossibilities." According to what we can gather from our friend Webster, that is a limit that anyone might well be proud of.

That microorganism of time immediately preceding indulgence in green apples, just-one-more drinks, and proposals has at last been positively identified as the psychological moment, but hope for the discovery of a specific has been abandoned.

SHE SHOULD TAKE IT TO EUROPE
Some cunning little press agent has figured out that Alma Gluck sings \$714 worth of music to her baby daughter every night. If the girlie can face the music for two years she will have a little over a half million dollars' worth of harmony in her system—which is some record.

GO AHEAD AND GUESS IF YOU WANT TO

Young Mrs. Scott was attending her first ball game, says "Everybody's Magazine." The home team was doing well that day, and for a time she patiently endured her husband's transports and his brief explanations. But when, amid the cheering, howling crowd, he sprang upon the seat, waved his new straw hat three times around his head and almost shattered it on the fat man in front, Mrs. Scott exclaimed:—New York Tribune.

The esteemed Trib. evidently wants us to guess what she exclaimed, for it doesn't say. But we refuse. It is enough for us to know she exclaimed—it alone proves she has no appreciation of the g.a.g.

WHAT THE FARM SUPPLIES

Of the raw material used in American manufactures, one-half of 1 per cent is derived from the sea; 5 per cent from the forests, 13 per cent from the mines, and 81 per cent from the farm.—Dr. H. J. Waters.

der that there will not be an overproduction in some products and a shortage in others.

The banker having direct business relations with the farmer should so study these subjects that he can intelligently discuss the questions of diversification, rotation of crops, etc., in a manner that will win the farmers' confidence and respect. Then should the banker see fit to make suggestions as to changes of method, they will be properly received. In other words, his ad-

White and carmine make pink.
Indigo and lampblack make silver gray.

White and lampblack make lead color.

Black and Venetian red make chocolate.

White and green make bright green.

Purple and white make French white.

Light green and black make dark green.

White and green make pea green.

White and emerald green make brilliant green.

Red and yellow make orange.

White and yellow make straw color.

White, blue, and black make pearl gray.

White, lake, and vermillion make flesh color.

Umber, white, and Venetian red make drab.

White, yellow, and Venetian red make cream.

Yellow, white, and a little Venetian red make buff.—Western Farm Life.

The total production of honey this year is, according to the federal department of agriculture, 12 per cent greater than last year.

In the Dakotas five times as much wild as tame hay is cut. In Kansas the wild hay production amounts to one twelfth of that of tame hay.

AMONG THE ALUMNI

Miss Belle Lunden, '14, is teaching for the second year in the Plainville high school.

Miss Jessie McKinnie, '12, is teaching home economics in the Atlantic (Iowa) high school.

J. L. Jacobson, '15, is teaching agriculture, botany, and physiology in the Coffeyville high school.

F. E. McCall, '13, is teaching in the Kanai high school in Hawaii. His address is Lihue, Hawaii.

The Rev. R. A. Esdon, '03, has accepted a call to Romeo, Colo. He was formerly in Amoret, Mo.

Born, to Dr. E. F. Kubin, '09, and Mrs. Kubin, McPherson, Kan., on July 11, a daughter, Doris Aline.

Born, to Mr. C. S. Cole, '04, and Mrs. Cole at Greenbank, Wash., on May 17, a son, Stewart Morrison.

Miss Sophia Maelzer, '14, is again teaching domestic science and art in the high school at Mackay, Idaho.

O. F. Oshel, '13, is engaged in dairy extension work in Purdue University, to which he went from the University of Missouri in August.

A. L. Ford, '15, has just returned from a short vacation at his home in Illinois. He was with the department of entomology for the summer. Mr. Ford will take graduate work during the college year.

C. C. Hamilton, '13, who has been in Colorado with the United States bureau of entomology, visited the college on his way to the University of Illinois, where he is taking graduate work in entomology.

Miss Christine M. Corlett, '91, of Canton, Okla., writes: "Your paper is the only connecting link between myself and the college. I find that being an alumnus of dear old K. S. A. C. is an open sesame for me wherever I go into strange communities. I always find friends."

Alumni births

MARRIAGES

WATKINS-PETTIT

Miss Sallie Watkins and Mr. Henry C. Pettit, '13, were married at Harrison, Ark., September 6. Mr. Pettit is engaged in farming. The bride was a teacher in the Harrison city schools.

WOESTEMEYER-SHYULER

Miss Clara Mary Woestemeyer, '10, and Mr. Reynold Shyuler, '10, were married at the home of the bride's parents, Mr. and Mrs. F. C. Woestemeyer, at Bethel June 16. Mr. and Mrs. Shyuler are at home in Bethel.

DIXON-GARRABRANT

Miss Helen Anna Dixon and Mr. Clarence Post Garrabrant were married June 16 at the home of the bride's parents, Mr. and Mrs. Lyman Hempstead Dixon, Flushing, L. I. Mr. Dixon, a well known architect in New York, is a member of the class of '88.

WOODY-SHAVER

Miss Vera Nan Woody and Mr. Charles William Shaver, '15, were married June 26 at the home of the bride's parents, Mr. and Mrs. A. W. Woody, Lincoln, Kan. They are at home at 522 Blunt street, Clay Center. Mr. Shaver, who is a graduate in architecture, is engaged in contracting and building.

SCHMITT-MAYER

Miss Hazel Ethel Schmitt and Mr. F. Herman Mayer were married September 14 at the home of the bride's parents, Mr. and Mrs. Julius F. Schmitt, Los Angeles, Calif. Mr. and Mrs. Mayer will be at home after November 1 at 3630 South Flower street, Los Angeles. Mr. Mayer is a power house designer for the Southern California Edison company.

HARLING-HOLMES

Miss Faith Harling and J. C. Holmes, '12, were married recently at

the residence of Dr. A. E. Holt, pastor of the Congregational church, Manhattan. Miss Harling was a sophomore in college. "Jake" Holmes was captain of the '11 football team and was placed on the "all-Missouri valley" team for three years. Mr. and Mrs. Holmes will live in Winfield.

MERRILL-PETERSON

Miss Alice Dwinell Merrill and the Rev. W. O. Peterson, '97, were married June 30 at the Baptist church in Wathena. They are at home in Olata, where Mr. Peterson is pastor of the Baptist church.

Mr. Peterson is a graduate of the Baptist Theological seminary at Kansas City as well as of the agricultural college. He taught for several years following his graduation.

NAUMAN-MEINZER

Miss Lillian Nauman and Mr. Edgar George Meinzer were married Wednesday, September 1, at the home of the bride's parents, the Rev. and Mrs. Conrad Nauman, Minneapolis, Minn. The bride's father performed the ceremony. Mr. and Mrs. Meinzer will be at home after October 15 at 1045 Twelfth street, North, Fargo, N. D.

Mr. Meinzer was instructor in German in the Kansas State Agricultural college from 1906 to 1911. He is now assistant professor of history and German in the North Dakota Agricultural college.

WILMER WILSON DROWNS

Wilmer H. Wilson, '15, of Osage City was drowned in the Kaw river September 12 while swimming with W. A. Hagan and J. S. Hagan, following a canoe ride up the Blue river.

Mr. Wilson was a member of Scarab, Saddle and Sirloin, and Pi Kappa Delta, and was prominent in the Hamilton Literary society. He specialized in horticulture.

THOMPSON TO MASSACHUSETTS

Charles Henry Thompson, '93, has accepted a position as assistant professor of horticulture in the Massachusetts Agricultural college, Amherst, Mass. He will teach plant propagation and plant materials. He will work under Prof. F. A. Waugh, '91, dean of the division; and with Prof. F. C. Sears, '92, head of the department of pomology.

Mr. Thompson has for many years been assistant in botany in the Missouri botanical garden, though he was absent from this work for four years spent in government service and at Leland Stanford university.

CALIFORNIA PICNIC

For several years it has been the custom of the Southern California Kansas State Agricultural College association to hold its annual picnic in Sycamore Grove, Los Angeles, the first Saturday after the close of the Los Angeles school year. This year, the picnic was on June 26.

The noon hour was spent at the picnic table, the meal ending with brick ice cream, one color being the Royal Purple. The afternoon was spent in a short business meeting and informal reminiscences, each person present giving a brief history of his wanderings since leaving college. The meeting ended with "Alma Mater," sung by all present.

The association expresses the wish that all Kansas State Agricultural college students or instructors who visit southern California in the month of June in any year may be present at the picnic.

The following persons were present last June: Mr. Isaac Jones, '94, Mrs. Laura (Day) Jones, '93, Phoebe Smith, '97, Mr. and Mrs. Louis Wabnitz, Mr. Homer Derr, '00, Mrs. Elizabeth (Asbury) Derr, '00, Mr. F. P. Manny, Mrs. Sarah (Thompson) Manny, '03, Miss Mary Colliver, '05, Mrs. Nellie (McCoy) Cover, '05, Miss Lorena Clemons, '94, Miss Ethel Clemons, '05, Miss Ada Kennedy, '09, Mrs. A. T. Blain, Mr. James Correll, '04, Mr. F. E. Rader, Mr. S. S. Gross, '10, Mr. K. C. Manny, '10, Dr. B. F. S. Royer, '95, Mr. G. C. Keyes, ex-'85, and others.

GET SEED CORN EARLY

CALL URGES FARMERS TO GATHER ENOUGH FOR TWO YEARS

Thorough Maturity Is Desirable—Frost May Cut Season Short at Any Time in North and Northwest—Official Data on Weather

L. E. Call, professor of agronomy in the Kansas State Agricultural college, emphasizes the importance to Kansas farmers of gathering seed corn for 1916 planting at an early date, and suggests that while they are doing this they procure a sufficient quantity to suffice in 1917 should the 1916 crop be short.

"It is advisable to allow the corn to mature on the stalks as thoroughly as possible," said Professor Call, "but in case of danger of damage through heavy frost it may be gathered for seed as soon as the husks are brown.

"If it is in an immature condition

frost or any damage to tender vegetation."

WHEN FIRST FROSTS OCCURRED

The dates of the first killing frosts on record in counties where records are available follow: Thomas, September 7, 1898; Rawlins, September 12, 1902; Phillips, September 9, 1898; Washington, September 26, 1912; Marshall, September 12, 1902; Brown, September 17, 1901; Cloud, September 22; Wallace, September 7, 1898; Gove, September 16, 1903; Trego, September 12, 1900; Ellis, September 17, 1901 and 1903; Ottawa, September 19, 1898; Shawnee, September 28, 1888; Saline, September 13, 1912; Dickinson, September 26, 1912; Hamilton, September 20, 1901; Hodgeman, September 17, 1901; Reno, September 26, 1912; Woodson, September 23, 1895; Bourbon, September 26, 1912; Morton, September 23, 1895; Clark, September 18, 1895; Comanche, September 29, 1895; Sumner, September 20, 1901; Chautauqua,

BACK TO OLD COLLEGE

ALUMNI WILL THRONG MANHATTAN FOR HOME-COMING GAME

Athletic Stars to Return to See Big Annual Contest with University—High School Seniors from All Parts of State

The first annual home-coming football game—Aggie-K. U., October 23—which has already been widely advertised, will bring hundreds of the alumni back to Manhattan, and the largest crowd in the history of football in the Kansas State Agricultural college is anticipated by John R. Bender, the new coach and director of athletics. Coach Bender has received letters from many of the former students, including "K" men, who say they will attend the big event.

Not only will the official college "K" be given to men who played upon the athletic teams before monograms were awarded, but they will receive honorary tickets in appreciation of past services, which will be good for free admission to all athletic contests.

TICKETS GIVEN TO ATHLETES

The ticket will read:

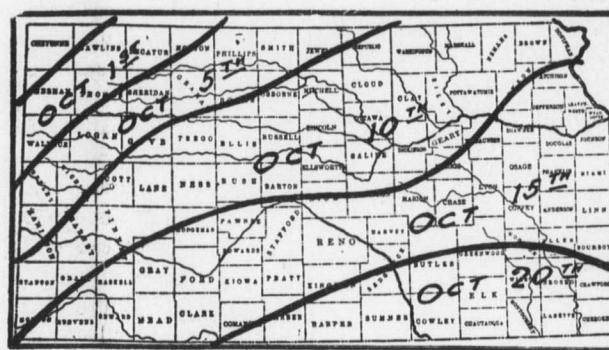
"This is to certify that _____, a former student of K. S. A. C., has made the college letter in _____, and is entitled to general admission to all intercollegiate athletic contests held on the campus of the college."

Plans are being made for a dress parade and a sham battle as a feature of the afternoon before the game. That evening a mammoth "pep" meeting will take place in the auditorium when Coach Bender, former "K" men, and others will speak. The final burst of enthusiasm will occur in the chapel hour on the morning of the twelfth annual clash between the rival teams. The game will be called at 3 o'clock.

TELL BENDER ABOUT IT

Those who participated in athletic events prior to the time that the official "K" was awarded are asked to write to Coach Bender stating just what part they played in college athletics.

High school seniors from all sections of the state will help swell the crowd at the home-coming game. They will be the guests of the athletic board. All high school seniors who are ac-



—Courtesy of Kansas Farmer
MAP OF KANSAS SHOWING AVERAGE DATE OF FIRST KILLING FROST IN FIVE DIVISIONS

it should be carefully stored in a dry place where there is good ventilation. The corn should be hung by the husks after the latter have been pulled back to give access to the air.

HEAVY FREEZES DANGEROUS

"It is important to gather the corn before the heavy freezes. When the seed corn is first brought in, it is full of moisture. When it is dry it is little affected by the cold.

"The big thing is to gather enough seed not only for next spring, but for the following season. We are going to have a good crop."

The date of the first killing frost in Kansas, according to the records in the Topeka office of the United States weather bureau, ranges from September 7 in Rawlins and Wallace counties to October 9 in Cherokee county.

AVERAGE VARIES A MONTH

The average date of the first killing frost in the extreme northwestern portion of the state is September 27, and in the southeast, October 22.

These figures indicate that the growing period for the corn, particularly in the north and northwest regions, may be cut short at any time. As a large percentage of the corn is still immature in the portions of the state named, S. C. Salmon, associate professor of farm crops in the Kansas State Agricultural college, suggests that the farmers who have not sold all their 1914 corn retain some of the best of it for seed, at least until it is certain that the 1915 crop will mature. It is understood, however, that there is comparatively little seed corn available from the 1914 crop.

GET HOME GROWN SEED

"It is desirable to procure home grown seed corn," said Professor Salmon, "as sending elsewhere has the tendency to diminish the yield."

In speaking of killing frosts S. D. Flora, United States weather observer at Topeka, said:

"Killing frosts have occurred in September in practically all parts of the state, the earliest on record being that of September 7, 1898, which occurred only in the northwestern counties.

"On account of the dryness of the air in the western part of the state instances often occur where the temperature falls to freezing or even a few degrees lower without the deposit of

September 26, 1912; and Cherokee, October 9, 1894.

The average date of the first killing frost in Riley county as shown by the records at the Kansas State Agricultural college, is October 8. The accompanying map gives the average date of the first killing frost in various parts of the state.

HOME ECONOMICS DIVISION TO SERVE MEALS TO STUDENTS

New Department Will Form Laboratory for Institutional Courses

Equipment for a cafeteria is being put in place in Kedzie hall and within a few days this innovation in the Kansas State Agricultural college will be in full operation with Miss Nola Treat in charge. It will be a department in the division of home economics, providing laboratory facilities for the institutional courses.

"Students will be trained to care for large numbers of persons at schools, lunch rooms, and public institutions of various kinds," said Mrs. Mary P. Van Zile, dean of the division. "The students will be trained not only in cooking, but in marketing, bookkeeping, and other phases of institutional management."

The cafeteria will furnish employment for a number of girls.

It will be possible to accommodate one third of the students at the noon and evening hours. No breakfasts will be served, but Sunday dinners will be provided.

UNPREPAREDNESS FOR WAR IS NOW NO COMPLAINT HERE

Nearly 1,000 Students Are Taking Military Drill—Twelve Companies Active

Unpreparedness for war can not be claimed of the Kansas State Agricultural college this year. There are 810 students taking military drill, an increase of 50 cadets since last year. Orville B. Burtis of Fredonia is colonel of the regiment, which is divided into three battalions of four companies each.

Two Colt's rapid-fire guns have been shipped by the government to Manhattan and these will be handled by the crack company of the regiment.

Lieutenant Roy A. Hill, commandant, will remain in charge until November 20.

accompanied by the principal or superintendent of schools and who have a written statement showing that they are regularly enrolled, will be admitted free.

"We want to get acquainted with the high school students," said Coach Bender, "and we have picked out the best game of the year for them."

The "K" fraternity has been given permission to paint a large purple "K" on the side of the college standpipe overlooking Ahearn field.

"Help beat K. U." is the cry already raised by the students and toward that end energy will be centered.

Arthur Capper, governor of Kansas, will be asked to kick off at the opening of the big home-coming game—Aggies vs. K. U. on Ahearn field, October 23, according to Coach Bender.

California raises approximately two thirds of the grapes grown in the United States.



JOHN R. BENDER

USE DAY FOR FARM TRIP

JEWELL COUNTY PEOPLE GET MANY SUGGESTIONS FROM TOUR

A. D. Folker, Agricultural Agent, Initiates Plan for Concrete Demonstrations—Taylor Discusses Vital Subjects at Series of Meetings

WHAT FARM VISITORS SAW

A model garage.
A model dairy barn.
A garden with more than 150 varieties of crops.
Corn and sorghum variety tests.
Catalpas set out to protect an orchard.
Brome grass growing successfully.
A beautiful country cemetery.
A modern township high school.
A poultry farm completely cleaned weekly.
A steam pressure canner in operation.
Power appliances for saving labor in housework.
A Ferris wheel for a grain binder to save wheat on wet ground.
Purebred Holstein and Hereford cattle, Shropshire sheep, and Percheron horses.

Two hundred ten farmers and others saw some mighty interesting things on a demonstration tour of Jewell county under the guidance of A. D. Folker of Mankato, county agent.

The trip started at Jewell City at 8 o'clock in the morning. Forty-two cars filled with 210 men and women made the tour. More than three-fourths of the crowd were country people. A number of additional persons joined for visits to several of the farms. Eight stops were made, and at each of them there were inspection and talks or informal discussions. About 70 miles was covered, and the demonstration tour ended at 5 o'clock.

At the close of the trip, Mr. Folker made a brief summary of the day's demonstration, pointing out some two dozen definite things that had been viewed for the purpose of obtaining specific suggestions.

MORE TRIPS ARE PLANNED

Mr. Folker plans other trips this fall, and it is possible that a similar plan will be carried out by farm bureaus in other counties.

A series of about 35 farm meetings has just been completed by Charles H. Taylor, agent in Atchison county. These meetings were held on farms in the county on which important things might be viewed.

At each meeting in the day, a different type of farming was inspected and the different subjects for discussion were so arranged that at no place was a subject taken up that had previously been discussed at a meeting within five miles.

Among the subjects treated were the orchard, hogs, horses, corn, wheat,

weeds, hog cholera, tuberculosis, principles of breeding, silos and silage, alfalfa, concrete, chickens, the Hessian fly, tractors, sweet clover, Sudan grass, and tile drains. Mr. Taylor traveled 388 miles and talked to 548 people.

EXPERTS TO TEACH HERE

(Concluded from Page One)

animal husbandman in extension; Nora Quine, assistant in domestic art; John Ripperton, fellow in chemistry; Herschel Scott, fellow in agronomy; J. E. Smith, instructor in physics; Frank L. Snow, instructor in industrial journalism; Roy L. Swenson, assistant in shop practice; Maurice Cole Tanquary, entomologist in extension; Carl Thompson, animal husbandman in extension; Nola Treat, assistant professor of domestic science in charge of cafeteria; Arthur E. Wesbrook, director of music and professor of voice; L. C. Williams, assistant to superintendent of institutes and demonstrations; J. W. Zahnley, assistant in agronomy.

HERE ARE NEW TITLES

The list of new titles awarded in the summer follows: M. F. Ahearn, professor of landscape gardening; Ray Allen, instructor in zoology; Estella Boot, assistant professor of the English language; Bertha Buxton, instructor in domestic art; Jen. L. Cox, instructor in domestic science; N. A. Crawford, professor of industrial journalism and superintendent of printing; C. C. Cunningham, assistant professor in co-operative experiments; H. W. Davis, associate professor of the English language; Mayme Davis, instructor in domestic science; J. B. Fitch, associate professor of dairy husbandry; F. R. Frazier, assistant professor of civil and highway engineering; P. J. Freeman, assistant professor of applied mechanics and machine design; P. L. Gainey, instructor in bacteriology; I. Victor Iles, associate professor of history; E. V. James, assistant professor of history; Ralph Kenney, assistant professor of agronomy; D. E. Lewis, assistant professor of horticulture; J. W. McColloch, instructor in entomology; A. E. McClymonds, farm foreman; F. S. Merrill, instructor in horticulture; J. H. Merrill, assistant professor of entomology; E. C. Miller, assistant professor of botany; Ada Rice, assistant professor of the English language; S. L. Simmering, assistant professor of steam and gas engines; Alice Skinner, instructor in domestic science.

John R. Bender, formerly director of athletics in the State College of Washington, is head coach and director of athletics in the Kansas State Agricultural college.

Mr. Bender played football for three years on the University of Nebraska team and was captain in his last year. For two years he won a place as halfback on the "all-Missouri valley" team and in one year was placed on the "all-western" team as halfback and in the same position on the second "all-American" team. For one year he was captain of the varsity baseball

team. Mr. Bender has developed championship teams in every college where he has coached.

Mr. Bender holds the degree of bachelor of arts from the University of Nebraska, that of master of arts from the State College of Washington, and that of bachelor of laws from St. Louis university.

JOURNALISM STUDENTS WILL GET PRACTICAL INSTRUCTION

Experienced Kansas Newspaper Man Becomes Instructor in College Department

Prospective Kansas journalists in the agricultural college will get this year an insight into the practical newspaper business of Kansas. F. L.



F. L. SNOW

Snow, for six years a member of the staff of the Topeka State Journal, is a new instructor in the college department of industrial journalism. He is also helping prepare college copy for the Kansas newspapers.

Mr. Snow is a son of the late F. H. Snow, chancellor of the University of Kansas. He began newspaper work in South Africa in 1904, when he took a position on the Rhodesia Herald. He has written much on commercial and agricultural subjects and has lectured on his travels.

EDITORS IN AGRICULTURAL INSTITUTIONS HOLD MEETING

National Association Has Annual Session at University of Wisconsin

The American Association of Agricultural College and Experiment Station Editors held its annual meeting in the summer at Madison, Wis., under the auspices of the department of agricultural journalism of the university. Important matters relating to publicity and editorial work were discussed. An exhibit of bulletins and press matter from the various agricultural colleges attracted much interest.

F. W. Beckman, professor of agricultural journalism in the Iowa State college, is the new president of the association, while B. E. Powell, editor for the University of Illinois, is secretary. N. A. Crawford, professor of industrial journalism here, is on the executive committee.

WILL SHOW TRIED WAY

IRRIGATION CONGRESS TO PRESENT TIME-TESTED METHODS

Farmers and State and Federal Experts to Appear on Program—Delegates Will Visit Practical Plants in Garden City Region

The Garden City way of irrigating will form the keynote of the fourth annual Kansas Irrigation congress, to be held at Garden City Wednesday and Thursday, October 13 and 14. The features of the meeting have just been announced by H. B. Walker, state irrigation engineer and secretary of the congress.

Garden City was the pioneer in irrigation in Kansas. In 1880 ditches were constructed from the Arkansas river, but in the wet years following, irrigation was given up. By the time that irrigation was again thought necessary, it was found that Colorado had most of the available supply of river water. In 1896 irrigation was begun near Garden City with centrifugal pumps, the first used for the purpose in the state.

The program of the congress, which will include addresses by practical irrigators of western Kansas and by federal and state experts, is as follows:

Wednesday morning—Registration; president's address, I. L. Diesem, Garden City; appointment of committees.

DEVELOPING IRRIGATION PLANTS

Wednesday afternoon—"The Development of Shallow Water Pumping Plants," Chester Carter, Garden City;

"Developing Deep Well Irrigation Plants," Preston A. Burtis, Garden City;

"Irrigation Pumping Equipment," Prof. R. A. Seaton, Kansas State Agricultural college;

"How to Reduce Operation Costs in Pumping," George S. Knapp, United States irrigation engineer, Garden City;

"Oil Engines and Tractors for the Irrigation Farmer," A. A. Potter, dean of engineering, Kansas State Agricultural college;

"The Syphon System for Irrigation Wells," Frank Petefish, Scott City; address, H. C. Diesem, United States government irrigation engineer, Denver, Colo.; general discussion.

Wednesday evening—Music; an "irrigation round-up," with talks by Congressman Jouett Shouse; E. E. Frizzell, Larned; Prof. Erasmus Haworth, University of Kansas, Lawrence;

Representative Charles Kelson, Scott City; and others to be selected.

Thursday morning—Inspection tour by automobiles to practical and successful irrigation plants in the Garden City district.

HOW WATER IS HANDLED

Thursday afternoon—"Practical Irrigation," G. W. Atwood, Garden City;

"Preparing the Land for the Water," H. B. Quimby, Garden City;

"The Way I Handle Water," A. R. Towles, Garden City;

"Growing Sugar Beets by Irrigation," F. A. Gillespie, general manager of sugar company, Garden City;

"When and How to Irrigate Alfalfa to Get the Greatest Tonnage," J. W. Lough, Scott City;

"Irrigation Experiments," M. C. Sewall, superintendent Garden City Branch Experiment station; "Advancing the Interests of Irrigation in Western Kansas," Representative Bray, Syracuse; reports of committees, election of officers.

Delegates to the congress may be appointed as follows: by a commercial club, two; mayor, two; board of county commissioners, two; county institute, two; local farmers' institute, two; irrigation company, two. Any farmer irrigating more than 50 acres in Kansas is, by reason of that fact, entitled to membership.

BENDER HAS 40 MEN IN DAILY PRACTICE

New Coach Promises Light, Fast Football Team—First Game Friday with Southwestern College

With more than 40 eligible men in daily practice on Ahearn field, John R. Bender, coach and athletic director, expects to mold a light, fast football team that will be known as the "scrappiest bunch in the valley."

Hauke, the star fullback, has announced his intention of attending Cornell this fall. His loss will be felt, but Coach Bender believes he has material for a winning team.

"The spirit is here and by coaching open football a speedy and fighting eleven should be developed," said Coach Bender. "With the first game of the season with Southwestern college coming October 1, it will be necessary for the tryouts to put forth some strenuous efforts to get into form for that event."

There will be but one practice game prior to the contest with the Cornhuskers at Lincoln, but Coach Bender expects the team to make in "pep" what will be lacking in training.

Weak spots in the present line-up are the center and quarter positions.

Wilder has been taken from his old place at end and is making good at half. Randal, end last year, is at half. Captain Skinner, Ptacek, and Hewey are showing old time form.

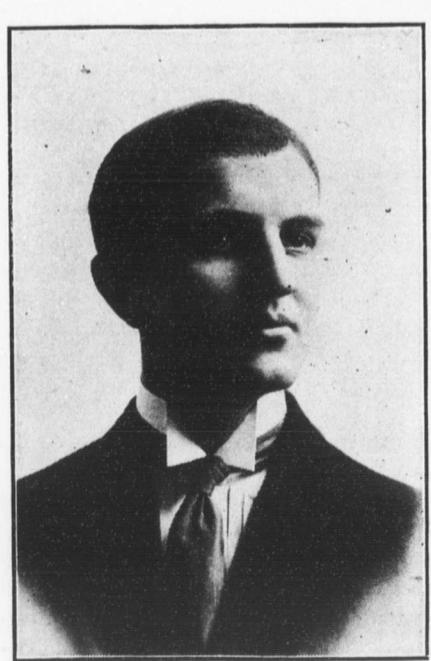
The following are among those who are trying out for places on the team: Wright, Cleland, and Edwards, center; Moore, Bayer, Englund, Franz, Hines, and Briney, guards; Hewey—star freshman of last year—MacMillan, Oliver, Du Bois, Drumm, Scott, Houk, Harwood, Linn, Johnson, Lindholm, Hudson, Giles, Layton, Paxton, J. D. Barnes, P. I. Barnes, and McGalliard, tackles; Captain Skinner, Ptacek, Bernard, Wilder, Sawyer, and Washington, ends; Randal, Barnes, and Bernard, halfbacks; Hartwig, fullback.

The 1915 schedule: October 1, Southwestern college at Manhattan; October 9, University of Nebraska at Lincoln; October 16, Kansas State normal at Emporia; October 23, University of Kansas at Manhattan; October 30, University of Missouri at Columbia; November 6, Friends' university at Manhattan; November 13, Washburn college at Topeka; November 19, Oklahoma university at Manhattan.

Some of the Specialists on the College Faculty



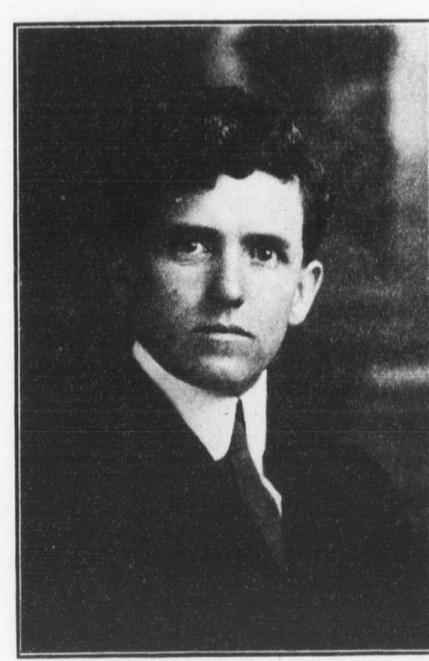
EDWARD C. JOHNSON



J. G. EMERSON



M. G. BURTON



W. A. ETHERTON



ARTHUR E. WESBROOK

THE KANSAS INDUSTRIALIST

Volume 42

Kansas State Agricultural College, Manhattan, Saturday, October 2, 1915

Number 2

SELL EGGS IN WINTER

WITH GOOD POULTRY HOUSE YOU WILL FIND LITTLE TROUBLE

Extension Specialist Points Out Necessary Factors in Keeping Fowl in Good Condition During Cold Months—Ventilation and Feed

A good poultry house is what you need, Mr. Farmer, if you are going to have plenty of eggs to sell this winter.

Some farmers feel that winter eggs are too hard to get to make it worth while to try to produce them. This is a mistake, according to R. M. Sherwood, poultry specialist in the extension division of the Kansas State Agricultural college.

"If one has a good poultry house," commented Mr. Sherwood, "he should have little trouble. Early matured pullets properly housed and fed should produce a large number of eggs."

The house, points out this expert, need not be an expensive one. It should furnish the fowls protection from the winds and storms, and should be so constructed that it will have proper ventilation. A chicken breathes three or four times as much air in proportion to its weight as a human being. Ventilation makes a house somewhat colder, but dryer, and dry, cold air is much better for the fowls than moist warm air.

MUST BE DRY AND ODORLESS

The house should be built with the west, north, and east sides tight during the winter months, while the south side should furnish the ventilation. There may be a few glass windows on the south side, but more space should be left open, except that curtains may be dropped down for the nights, and on a few very stormy days. On some occasions these openings may be left uncovered during the night. Sometimes curtains do not allow enough air to circulate. In these cases, openings may be made just under the roof to allow the air to circulate more freely. Whatever the system of ventilation may be, it is essential that the house should be dry and free from bad odors.

The house should be so constructed that it can be easily cleaned. The floor should be smooth. Concrete is good for this reason. It is true, however, that concrete floors built on damp ground are damp. To avoid this trouble, a concrete floor may be built on a layer of eight or ten inches of rock or other material which will not carry the moisture from the ground. Some poultrymen use floors made of hollow building tile, and find them very satisfactory. Where these are used the tile are laid on a smooth surface and the crevices filled with cement.

KEEP MITES IN CHECK

The perches should be built so that there will be as few places for mites to breed as possible. If perches are removable, so much the better. A board platform should be placed about eight inches below the perches to catch the droppings. This makes a cleaner floor, and thus adds to the capacity of the hen house. It makes it easier to clean the house, and aids in keeping the mites in check.

The nests also should be built so that the mites can easily be combated. They should be covered or protected so that the fowls cannot roost on them. This is necessary in the production of a good grade of market eggs.

After the early matured fowls are placed in the house, says Mr. Sherwood, feed should be given which will form yolk, white of egg, and shell. The common grains furnish plenty of material for yolk. Alfalfa, bran, buttermilk, and meat scraps furnish material for the white of egg, while oyster shell furnishes the material for the

shell. Good water is of course necessary. Some of the grain feeds should be fed in a deep litter of straw on the floor, to furnish exercise to keep the fowls in good condition.

COLLEGE WANTS GRAIN JUDGING CUP FOR KEEPS

Will Send Team to Soil Products Exposition Next Week—Has Won Championship Two Successive Years

The Kansas State Agricultural college will send a team of three men to the International Soil Products exposition in Denver next month with a view to taking first honors in the students' grain judging contest for the third successive time. If the local team is successful the silver cup, which has been twice won—in 1913 and 1914—will become the property of the college.

The contestants will use grading rules adopted by the National Grain Dealers' association in 1909. The student scoring highest will receive a medal. This year, as a special inducement, a cash prize of \$35 is offered besides the silver cup.

Those who will represent the college are H. R. Sumner of Manhattan, J. J. Bales of Manhattan, J. V. Quigley of St. Marys. J. R. Mason of Seneca is the alternate. These were the best men in a preliminary contest in which 20 students participated.

S. C. Salmon, associate professor of farm crops, is the coach. L. E. Call, professor of agronomy, will accompany the team to Denver. L. A. Fitz, professor of milling industry, will be on the jury of awards.

The silver cup in question was won by Washington Agricultural college in 1910. There was no contest the following year, but it was won in 1912 by the Manitoba Agricultural college.

The International Soil Products exposition in conjunction with the International Dry Farming congress is being held in Denver September 26 to October 10. The judging contest will be held October 6.

MUST READ NEWSPAPER TO BE GOOD CITIZEN

Man of Today Can't Do Without Press, Says Dr. John R. Macarthur in Addressing College Students

"No man can be a good citizen unless he reads the newspaper of his community," said Dr. John R. Macarthur, associate professor of the English language, in addressing the students of the Kansas State Agricultural college.

Doctor Macarthur pointed out that the old method of disseminating news by word of mouth had largely passed, even in small towns, and that the newspaper was now essential to an understanding of local as well as national problems.

TO HOLD SOCIAL EVENTS IN COLLEGE BUILDINGS

Students Are Encouraged to Bring Affairs upon Campus—Places Provided

The holding of social events in Kansas State Agricultural college buildings is being encouraged. It is recognized that social life among the students is an important factor in a liberal education. Consequently, the facilities have been provided for college, class, fraternity, and other gatherings.

Adjoining the "gym" a reception room is now available for the larger functions. An inner stairway leading to this portion of the building is an innovation.

A large room on the second floor of the domestic science and art hall will be available for events of a social nature; likewise several smaller rooms. A chaperon will be required on all occasions. Friday and Saturday nights are those set aside for social pleasures.

KANSAS WINS PRIZE CUP

EXHIBIT PREPARED BY COLLEGE TAKES FIRST PLACE AT DENVER

Display Attracts Intense Interest at International Dry Farming Congress—Artistic Arrangement and Educational Value Are Features

With an exhibit prepared by the agricultural division of the college, Kansas won the \$300 loving cup given as first prize at the International Dry Farming congress at Denver Thursday morning. Second place was won by Nebraska and third by Oklahoma.

tendent of the Garden City Branch Experiment station.

Word has just been received that in addition to the prize cup, the college won one first, one second, and two thirds on its apples.

WON'T HAVE TO FIGHT CHINCH BUG THIS FALL

Farmer Will Be Free from One Worry—Pests Largely Destroyed by Fungous Disease in Summer

War against the chinch bugs by the Kansas farmers this fall will be unnecessary because of the wholesale destruction of the pests in the summer

SCIENCE ADDS TO PROFIT

MODERN METHODS INCREASE YIELDS IN KANSAS ORCHARDS

Demonstration Work Carried on by Agricultural College Shows Striking Results—Scope Will Be Enlarged in Coming Year

That the adoption of scientific methods in caring for orchards produces an increased yield with consequent gain in profits, has been clearly shown in the demonstration work carried on in Kansas during the last year under the direction of George O. Greene, extension horticulturist in the Kansas State Agricultural college.

Twenty-five demonstration orchards have been maintained, and approximately 100 visits to other Kansas orchards were made for the purpose of demonstration of proper methods of pruning and spraying.

The work will be continued. In the next year the number of demonstration orchards will be increased.

Work will be carried on in the vicinity of Valencia, Silver Lake, McPherson, Oak Mills, Gardner, and Vinland. The towns near which demonstrations have been conducted this year are Grantville, Topeka, Muncie, Rantoul, Baldwin, Valley Center, Emporia, Neosho Rapids, Virgil, Strong City, Elmdale, Hymer, Oxford, and Winfield. Work will be continued in these orchards in 1916.

"The fact that striking results are to be found in each of the demonstration orchards is sure to result in increasing the scope of the work," said Mr. Greene.

WEATHER INTERFERED WITH WORK

"The weather during 1915 has interfered with the work. Very little of it has been done at the proper time or at the time agreed upon with the owner. Our own visits to the orchards have not been according to schedule because of washouts and delays that could not be avoided.

"The breakages and engine troubles with sprayers have been many, due to hard usage and bad weather conditions. Taking everything into consideration, we feel that we have accomplished considerable during this year and hope for better results under ordinary conditions, which we expect in 1916."

In a report just completed Mr. Greene gives a summary of the orchard work. The report reads in part as follows:

During the institute season of 1914-'15 plans were made, blank contracts drawn up and the co-operation of owners invited in carrying on demonstrations in orchard management in localities where it was thought that the business of fruit growing might be developed and enlarged.

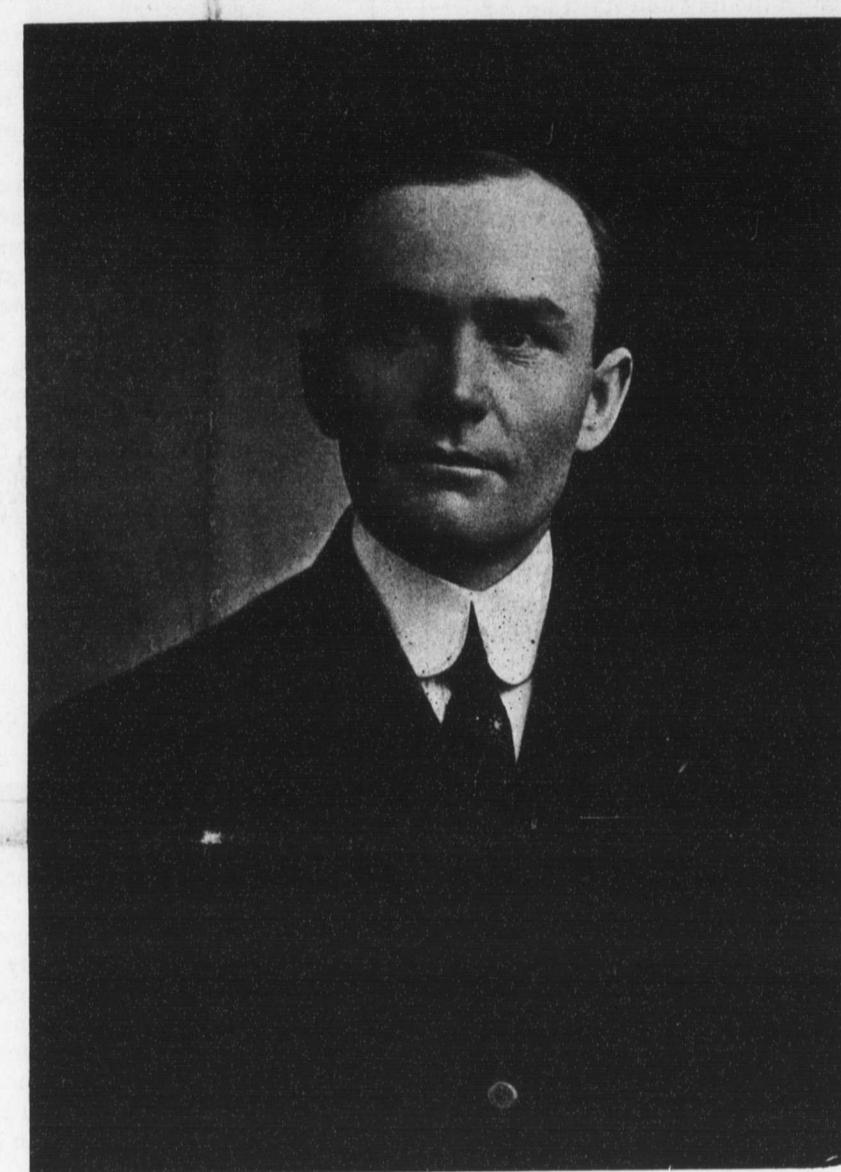
EACH ORCHARD IS PLOTTED

In each locality where these demonstrations were carried on, we endeavored to get more than one owner or renter to sign the agreement. This was done largely because we felt that certain individuals in each community might readily take hold of such demonstrations who were not considered good business men by their neighbors. The orchard under contract was plotted out according to the needs of the individual grower. Some orchards were plotted for a comparison of cultivation with grass plots, some were plotted according to the pruning that was to be done, and in other cases they were plotted for disease or insect control.

Some of the pruning demonstrations that were carried on were plots of no pruning, winter pruning, winter pruning followed by summer pruning, and summer pruning.

Where peaches were grown some of the trees were headed in, some de-

(Concluded on Page Three)



W. M. JARDINE, DEAN OF AGRICULTURE

The cup, which is most attractive, will remain the permanent property of the winner.

The educational value and the artistic arrangement of the Kansas display, as well as its completeness, succeeded in bringing down the prize. The grains exhibited include 27 varieties of wheat in the sheaf and threshed, 13 varieties of oats likewise, and five varieties of barley. Fifty varieties of native and tame grasses are shown and more than this number of sorghums. Canned goods prepared by the boys' and girls' canning clubs of the state form a particularly interesting feature.

PLANT BEARS RIPE BERRIES

A strawberry plant bearing ripe strawberries is attracting wide attention in the exhibit. Many fresh fruits and vegetables are being shown. The majority of the exhibit is from western Kansas.

The exhibit occupies 240 square feet of floor space and is 10 feet high. The booth is artistically decorated. A large sunflower three feet in diameter and made of alfalfa, wheat, and sorghums, occupies a conspicuous place. The electric lights, signs, and color schemes are so harmonized and arranged as to bring out the different exhibits and colors. There are two columns of cut glass filled with choice pedigree wheat, and a show case lined with black plush and containing choice samples of corn and other grains.

The exhibit is in charge of B. S. Wilson, assistant in co-operative experiments, and M. S. Sewell, superin-

months by fungous disease, according to George A. Dean, professor of entomology in the Kansas State Agricultural college.

"It looked last spring," said Professor Dean, "as though there would be a most serious outbreak, but the weather conditions were favorable to the development of fungous disease, and consequently the bugs were checked.

"Some inquiries have been received from the south central and southwestern portions of the state where the rainfall in August was light, but even there the bugs do not seem to be found in sufficient numbers to do any serious harm in the coming year."

COLLEGE ORCHESTRA WILL STAGE RAGTIME PROGRAM

Professor Brown Has Grouped Best Numbers from Latest Popular Hits

R. H. Brown, assistant professor of music in the Kansas State Agricultural college, has yielded to numerous requests to stage a ragtime program in assembly, and will direct the college orchestra in such an event sometime in the near future.

Professor Brown has been traveling in the east this summer listening to all the latest hits, such as the "Follies of 1915" and "The Passing Show." He has grouped a number of the best selections.

The orchestra is the largest in the history of the college—the band likewise.

THE KANSAS INDUSTRIALIST

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N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

Except for contributions from officers of the college and members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism. The mechanical work is done by the department of printing. Of these departments Prof. N. A. Crawford is head.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

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SATURDAY, OCTOBER 2, 1915

Henry Ford is at any rate no pessimist, even if he does manufacture Fords. He says he has never met a bad man.

Moving pictures keep men from saloons, according to an eastern excise commissioner—which is another good word for the “movies.”

Once in a while one hears of even a burglar who has no financial sense. A housebreaker recently made away with the manuscript of a play.

Colorado owns the reporter to whom questions are as ammunition in a weary world. “Mr. Rockefeller shot questions at Griffiths and Mitchell,” he rhapsodizes.

The war will at least add to the pleasure of stamp collectors. Austria has just issued a series of postage stamps depicting actual war scenes, and a number of countries have made war stamps.

Lots of lives are due to be lost in New York. The Moss league advertised Tuesday, “Your life and the lives of your wives and children depend on your ballot today,” but the voters turned down Moss for Perkins.

KANSAS AND DRY FARMING

The fact that Kansas won the prize for its exhibit at the International Dry Farming congress places the state first in the list of states that have engaged in modern dry farming operations.

The exhibit, most of it coming from the western part of the state, where dry farming is practicable, is definitely representative of what Kansas has accomplished along this line. Not only this, but it is an index of what Kansas may do in the future. The full possibilities of dry farming are as yet unrealized. Probably new drought-resisting crops and certainly new drought-resisting strains will be obtained, new methods of agriculture under semi-arid conditions will be developed.

The further development of dry farming in Kansas will be of benefit not only to this state, but to the whole nation. Not less than 45 per cent of the land in the United States requires the application of dry farming methods if agriculture is to be successfully carried out upon it. There is this amount of land which receives low rainfall and is at the same time not capable of being irrigated.

As population increases, it will be necessary to make use of all this land unless the undesirable system of extreme intensive farming is to be employed on the more fruitful soil. Much of the dry land of the country is now being used, but it may be used more effectively. Kansas is using its opportunity to develop the most effective methods.

AN ATTRACTIVE INNOVATION

The Panama-Pacific exposition at San Francisco has adopted a most attractive innovation by arranging for an exhibition of children's pets December 2 and 3.

The classification includes just about every variety of pet that a child could

want—canaries, parrots, cockatoos, rabbits, guinea pigs, squirrels, chipmunks, mice, rats, tortoises, snakes, frogs, lizards, fish, chickens, pheasants, pigeons, dogs, and cats. It will be thoroughly a children's show, too, for nobody more than 16 years old is permitted to exhibit.

An important rule is that evidence of care and general welfare of a pet will count equally with points of merit from a professional show standpoint.

A number of educators have suggested that the plan adopted by the exposition be carried into the public schools, which would then have annually or often a children's pet day.

“The teachers will be surprised,” says Miss Etta Powers, a Salt Lake City principal, “to learn what little effort it will take on their part; the children will do all the work. It's the easiest thing in the world to have a pet's day in school, by having the reading, drawing, and language lessons refer to pets, and letting the children bring their pet birds in cages to brighten the day and liven up the lessons.”

Such a plan is clearly worth while. To quote another educator, David Starr Jordan, “Natural history is a means of grace to a boy or girl.”

UNPRECEDENTED RECOGNITION

College teaching of journalism received unprecedented recognition when the new Press Congress of the World, made up of progressive newspaper men from every state of the United States and nearly thirty foreign countries, elected as its first president Dr. Walter Williams, dean of journalism in the University of Missouri.

While the history of journalism instruction in educational institutions goes back a good many years, the present efforts to prepare students for the profession have a recent origin. Like other new things, they have met with more or less criticism and suspicion. That unfavorable attitudes are passing away, however, has been shown in the last three or four years by the increasing readiness of large newspapers and other periodicals to employ journalism graduates. It is further shown now by the election of Dean Williams to the highest position in the gift of the newspaper men of the entire world.

Teachers and students of journalism are pleased not only that this recognition has come to their work, but that it has come personally to Doctor Williams. No man has done more to put the teaching of journalism on a high plane; no man has done more to make it understood and appreciated among newspaper men. Works published in foreign countries have commended his work. Newspaper men who met him on his European and Asiatic travels remember his evident ability and gracious personality whenever the subject of journalism instruction comes to their minds. The new honor that has come to him is what he and his work deserve.

LONG JUMP RECORDS

The Rider and Driver has been asked by several subscribers and others lately for the long jump record for horses. In answer we cannot give absolutely reliable figures as they are not at hand. We have heard many reports of tremendously long jumps, but they are not authenticated nor “official.” Mr. Louis Leith of Warrenton, Va., informs us that Roustabout, a horse formerly owned by him, cleared 36 feet at the Laurel (Md.) fair. The horse was ridden by a boy called Pee-wee Rose, 115 pounds, and in making this long jump also cleared at the same time, a hurdle 5 feet 6 inches high. Mr. Leith also assures us that the well known jumper Overall, when owned by Mr. Julian Morris of Keswick, Va., cleared a distance of 36 feet. Roustabout, it may be recalled, was purchased by Judge Moore from Mr. Leith at the first Washington horse show and presented to the United States Government. Mr. Leith says the horse had earned between \$4,000 and \$5,000 a year for him as an exhibition jumper.—Rider and Driver.

A FAVERED LAND

The government crop report reveals a veritable horn of plenty. Of wheat the prospect is for a record yield. Corn, while abundant, is not quite up to the production of 1912, which was phenomenal, but oats, barley, rye, buckwheat, rice, potatoes, flax, tobacco, and hay, all promise substantial increases over any recent years.

Although prices in the great primary markets were higher a year ago than they are today, they resulted from feverish speculation when the European war was new, and did not accurately represent the returns received on the farms. The probability is that this year's crops are of greater value in the hands of those who have produced them than any others ever har-

germs on departing, we feel that she has gone too far. But here again we must try to look at it through the eyes of the mosquito. “Where,” she might with justice inquire, “did I get those germs if not from some other person's blood? If you humans would only keep your blood free from disease there would be no trouble about our spreading it. What we mosquitoes want is a pure food law.”

It is obvious that we must acquit the mosquito of intentionally inoculating us with yellow fever and the like. The germs they carry are forced upon them and doubtless they suffer from them too. Think of a mosquito shaking with fever andague and no quinine on hand. Or worse, a mosquito with elephantiasis lumbering around on her

WORK

Elizabeth Barrett Browning

What are we set on earth for? Say,
to toil—
Nor seek to leave thy tending of the
vines,
For all the heat o' the day, till it de-
clines,
And Death's mild curfew shall from
work assoil.
God did anoint thee with His odorous
oil,
To wrestle, not to reign; and He as-
signs
All thy tears over, like pure crystal-
lines,
For younger fellow-workers of the soil
To wear for amulets. So others shall
Take patience, labour, to their heart
and hand
From thy hand, and thy heart, and
thy brave cheer,
And God's grace fructify through thee
to all.
The least flower, with a brimming cup,
may stand
And share its dew-drop with another
near.

SUNFLOWERS

POST MATRIMONIUM

Jack and Jill went up the hill
Of sordid disillusion,
Jack got sore and slammed a door,
And Jill was all confusion.

THE ULTRA-MODERN MARY

Mary had a little “damn,”
Though she looked quite demure,
She used it very sparingly,
And meant it not, I'm sure.

SUCH IS FAME

Our gentle contemporary at Lawrence refers to J. G. Edwards as the new professor of public speaking here. Mr. Emerson requests us to say that he hasn't changed his name.

BY OUR FRIEND OF CHILDREN

A school garden is a vacant lot out by the old brickyard, where the youth of the city is trained in the appreciation of nature and the joys of rural life through the cultivation of popcorn and begonias. It is usually the outgrowth of an article on Montessori read at a meeting of the Mothers' Welfare association. The school garden should be agitated in the winter, planted in the spring, neglected in the summer, and ignored in the fall.

WHERE ARE THEY NOW?

The little girlie in melodrama who used to flag the oncoming train with a red flannel petticoat.

The art of having biscuits for breakfast once in a while.

The little old lady with the poke bonnet who caused us to have so much reverence for woman's rights.

The old-fashioned family with eight or ten children.*

*In case this should be found the mother should be severely berated for neglecting her card club and other extension duties, and paroled on good behavior.

THE CONTROL OF RINDERPEST

There is no doubt about immunization being the solution of the rinderpest problem. When there is no immunization station in a province, farmers should immediately urge the establishment of a station. Compared with the great losses from rinderpest, the cost of a station and the money spent for immunization of animals is comparatively small. In the meantime, if any of your animals are sick with rinderpest, isolate the diseased animals at once in order to protect your other live stock. One match by itself will soon burn out, but if ignited and placed in a box full of matches every match in the box will burn. It is the same with rinderpest. If the diseased animal is kept away from the herd, the others may be saved. If not, then all the animals may become diseased and die.

—Philippine Farmer.

WHY MOSQUITOES?

It is the unnecessary cruelty of the mosquito that aggravates and puzzles us. We would not so much mind the loss of a little blood. Our ancestors thought it good for them. But when the mosquito, after drilling and boring and sawing and pumping to her heart's content, poisons the well with disease

germs on departing, we feel that she has gone too far. But here again we must try to look at it through the eyes of the mosquito. “Where,” she might with justice inquire, “did I get those germs if not from some other person's blood? If you humans would only keep your blood free from disease there would be no trouble about our spreading it. What we mosquitoes want is a pure food law.”

It is obvious that we must acquit the mosquito of intentionally inoculating us with yellow fever and the like. The germs they carry are forced upon them and doubtless they suffer from them too. Think of a mosquito shaking with fever andague and no quinine on hand. Or worse, a mosquito with elephantiasis lumbering around on her

Men who are truly great have done good to their fellow man. And the greatest soul ever born on earth came to urge but one thing on humanity, “Love one another.”

Get money if you can. Get power if you can. Then, if you want to be more than the ten thousand million unknown mingled in the dust beneath you, see what good you can do with your money and your power.

If you are one of the many millions who have not and can't get money or power, see what good you can do without either.

You can help carry a load for an old man. You can encourage and help a poor devil trying to reform. You can set a good example to children. You can stick to the men with whom you work, fighting honestly for their welfare.

Time was when the ablest man would rather kill ten men than feed a thousand children. That time has gone. We do not care much about feeding the children, but we care less about killing the men. To that extent we have improved already.

The day will come when we shall prefer helping our neighbor to robbing him—legally—of a million dollars.

Do what good you can now, while it is unusual, and have the satisfaction of being a pioneer and an eccentric.

A QUARTER CENTURY AGO

Items from *The Industrialist* of October 4, 1890

W. W. Hutto is college postmaster this term.

A field of rye is being sown for winter pasture.

The society directory will be published next week.

The pastures are giving out, and the herd will be put up in a few days.

The chapel seems almost full with 467 students in daily attendance.

Assistant and Mrs. Cottrell rejoice in the birth of a son September 22.

Professor Hood has not been well of late, though his crowded shop could not spare him for a day of rest.

Professor and Mrs. Nichols are pleasantly domiciled in the Mills house, formerly occupied by Professors Hood and Olin in turn.

The farm department has sold 266 bushels of choice seed wheat, mostly in small quantities. Some of it was shipped to Europe.

The six companies of cadets are captained this term by H. B. Gilstrap, R. J. Brock, J. O. Morse, D. C. McDowell, G. W. Wilden, and A. K. Midgley. A. A. Gist is captain of the artillery.

A large number of non-saccharine sorghums, chiefly Indian and African kinds, made enormous growth this season, and gave promise of becoming important varieties for this country, but, being somewhat late, were cut down by the recent frosts.

One of the large silos in the barn has been filled with corn ensilage, which was harvested at exactly the right time, and is in splendid condition. The other silo is filled with ensilage composed of sorghum and grass, both having been run through the cutter in the usual way.

AMONG THE ALUMNI

W. F. Smith, '15, is in business in Mankato.

Miss Fra Clark, '14, is teaching in Corydon, Iowa.

Earl Hostetler, '14, is head of the Raleigh (N. C.) Test farm.

Miss Blanche Burt, '14, is teaching in the public schools of Manhattan.

Miss Clara Peairs, '15, has taken a position as teacher in Cleveland, Okla.

William R. Curry, '14, is teaching agriculture in the high school at Lewis.

Miss Cecile Allentharp, '07, is teaching in the high school at Torrington, Wyo.

Ralph H. Musser, '14, is teaching agriculture in the high school at Twin Falls, Idaho.

C. S. Cole, '04, is teaching agriculture in the North Yakima (Wash.) high school.

Corwin A. Smith, '15, is in Orange, Calif. He is living at 359 South Grand street.

J. P. Stack, '15, is head of the agricultural department of the Pawnee City (Nebr.) high school.

W. A. Domsch, '11, is in engineering work for the Standard Oil company at Tranquility, Calif.

Miss Minnie Gugenthaler, '15, is teaching in Chewelah, Wash., where she finds her work very enjoyable.

W. F. Smith, '15, has returned to his home in Mankato after a trip to the Panama-Pacific exposition.

Miss Ethel Cary, '15, has been appointed instructor in home economics in a mission school at Ferron, Utah.

A. G. Vinson, '15, is professor of agriculture and geography in the Northwestern Normal school, Alva, Okla.

R. A. Fulton, '05, expert for the Cleveland Electric Illuminating company, visited friends at the college recently.

Miss Irene Fenton, '13, is continuing her work as head of the domestic art department in the Pocatello (Idaho) schools.

Miss Marcia E. Turner, '06, is in charge of the domestic science department of the city schools in Port Arthur, Tex.

Miss Lynne J. Sandborn, '10, is teaching home economics in Seattle, Wash. Her address is 4244 Tenth avenue, Northeast.

Miss Hazel Shellenberger, '14, is enjoying her work as teacher of home economics in the Maquoketa (Iowa) high school.

Charles Hunter, '15, is taking graduate work in agricultural bacteriology in the college of agriculture, University of Wisconsin.

C. S. Breese, '12, was a visitor at the college the opening week. He will take special work in physics this fall in the University of Illinois.

H. H. Haymaker, '15, is enrolled in the college of agriculture in the University of Wisconsin. He is taking special work toward a master's degree in plant pathology.

Miss Margaret Helen Haggart, '05, professor of home economics in the college, is recovering from a serious illness at Topeka. She will be out of college for some time.

Miss Adah Lewis, '07, remains head of the home economics department of the State Normal school, Springfield, Mo. She was re-elected with a substantial increase in salary.

Miss Blanch Vanderlip, '10, is teaching cooking and sewing in the Allison-James school at Santa Fe, N. M. This is a Presbyterian mission school which has enrolled 78 Mexican girls.

Miss Carrie Gates, '10, is teaching domestic science in the Rupert (Ida.) high school. Rupert is in the Snake river valley, one of the important agricultural regions of the state.

Charles F. Kinman, '04, is doing effective work as horticulturist in the Porto Rican Experiment station at

Mayaguez. He has been at work in the tropics since 1907 and has received excellent advancement.

MARRIAGES

CLEMONS-RECORDS

Miss Lorena Estella Clemons, '94, and Mr. Thomas Edgar Records were married September 25 in Washington, D. C. Mrs. Records was assistant secretary of the college from 1894 to 1900, and secretary from 1900 to 1909. Mr. and Mrs. Records will be at home after November 17 at North Yakima, Wash.

HACKNEY TO KICK OFF AT BIG REUNION GAME

President Waters and Chancellor Strong Will Be Honorary Officials—Aggie Team Has Spirit

Ed. T. Hackney, president of the board of administration, will officially open the big home-coming football game October 23—Aggies vs. K. U.—according to announcement by John R. Bender, coach and athletic director, who originated the home-coming idea for the college and expects to make it an annual event. While Mr. Hackney is doing the kick-off stunt, Dr. Henry J. Waters, president of the Kansas State Agricultural college, will serve as honorary referee, and Dr. Frank Strong, chancellor of the University of Kansas, as umpire.

There will be a special box for the members of the board of administration and other dignitaries.

Coach Bender is receiving many letters from the alumni and he confidently anticipates the greatest reunion of alumni in the history of the institution.

The team representing the college went into the initial football game of the season yesterday in a somewhat battered condition. Howenstein broke a rib this week, Captain Skinner has been on the sick list, and Charley-horses have been numerous.

John R. Bender, coach, admits he is feeling blue because of the loss of four of the veteran line men and the entire back field. The men who did not return this fall include Coxen, center; Briney, guard; Scanlon, tackle; Marble, tackle; Haucke, full; Haymaker, quarter; Enns, half; and Agnew, half.

These were all regulars and must be replaced. The new team which Coach Bender is whipping into shape as rapidly as possible, is composed of mere boys, the average age of the squad



ED. T. HACKNEY

members being but 20 years, and the average weight 163 pounds.

"We are trying to develop good tacklers, good fighters, and all the speed possible," said Coach Bender. "My fear is that the light line will not be able to withstand the onslaught of a heavy set of backs."

"The Aggie center, 'Rasty' Wright, weighs only 159 pounds. The two tackles tip the scales at but 170 each and the ends and backs average 150 pounds. The boys are all tall and look big but are light and small in the waist."

"The one thing that pleases me is the spirit of the team and the willingness of the members to fight. This is our only consolation, and upon this fighting spirit we must depend to win games."

AGENT HAS MANY DUTIES

BUSINESS OFFICE HANDLES MILLION DOLLARS A YEAR

James T. Lardner, Who Looks After Purchasing for Big Institutions, Buys Everything from Corpses to Steam Engines

"We buy everything that is used in the world, from a corpse to a steam engine," says J. T. Lardner, purchasing agent for the board of administration, who buys supplies for the state institutions that are supervised by the board.

Nearly \$1,100,000 is handled each year by the business office at the Kansas State Agricultural College, in the transaction of the business connected with it and other state institutions.

The business office has three distinct divisions: the purchasing department, which purchases the supplies for all the state schools; the executive merchandise department, which sells supplies to students and to the various departments for their use; and the accounting department, which has charge of the accounts of the departments. Six stenographers and two clerks are employed in the offices of the purchasing agent.

WAR STOPS FOREIGN SHIPMENTS

The purchasing departments of the various state schools were united by the present board of administration and located at Manhattan until arrangements can be made for an office in Topeka. Everything needed by any of the institutions is bought by this department. Most of the goods purchased by the department are obtained from American firms, but a great many of the chemicals and much of the equipment used in the laboratories have to be procured in foreign countries. A great portion of the chemicals and laboratory

equipment has been purchased from Germany, but owing to the present war orders cannot be filled. Recently orders were placed in Rome for pictures and in Tasmania for the skeleton of the echidna. Corpses are bought for use in the university medical school, steam engines for use in the engineering schools, food-stuffs for use in the domestic science departments.

AUDITS SOCIETY ACCOUNTS

The accounting department has charge of the accounts of the office and various departments, including sales, purchases, exchanges, and payment of salaries. Nearly 750 checks are issued to faculty members and students each month. The faculty payroll amounts to about \$27,000 each month, while the 500 student and other employees receive about \$10,000 each month. Nearly 300 of the employees are students who are earning their own way through college.

Mr. Lardner also audits the books of the various student organizations in the several institutions once each term.

The executive merchandise department has charge of the distribution of supplies such as stationery, inks, and other office supplies as well as the sale of notebooks used by students of the college. The sale of merchandise to the various departments amounts to about \$7,000 each year while the sale of notebooks to the students amounts to nearly \$2,400 each year. This department also has charge of the sale of stamps, which amounted to \$8,688 in 1914.

THOMPSON BLACKBURN HEADS COLLEGE WRITERS' SOCIETY

Journalism Student Is Elected Chancellor of Local Chapter of Quill

Thompson Blackburn of Anthony has been elected chancellor of the local chapter of the Quill, a national intercollegiate writers' society. Mr. Blackburn is a student in the course in industrial journalism, and is editor of the Kansas State Collegian, the student newspaper.

The vice-chancellorship, which must be held by a faculty member, was filled

by the election of N. A. Crawford, head of the journalism department. Miss Florence Justin of Manhattan, senior in home economics, was chosen keeper of the parchment; Mrs. George S. Strother of Manhattan, senior in industrial journalism, scribe; and L. R. Hiatt of Esleon, junior in agriculture, midan.

The society is open to students of proved literary ability from any course in the institution. It employs a ritual and terminology based on ancient English usages.

AGRICULTURAL COURSES SHOW SUBSTANTIAL ENROLMENT GAIN

Present Attendance Is Greater Than at Close of Last Fall Term

The division of agriculture in the Kansas State Agricultural college

TO MAKE FARM SUCCESS

W. E. GRIMES TELLS OF QUALIFICATIONS OWNER SHOULD POSSESS

Education, Business Aptitude, and Industry Are Necessary—Work Must Be Managed Efficiently—Local Conditions Often Affect Result

Education and business aptitude combined with industry and efficient management are the important qualifications of a successful farmer, according to W. E. Grimes, assistant professor of farm management in the department of agronomy, Kansas State Agricultural college.

"Of course the qualifications of a successful farmer vary," commented Mr. Grimes, "yet data available on

State Schools Employ Students



These young men, who are helping earn their way by doing janitor service for the agricultural college, are but a small part of the army of students in the state institutions who are employed by the institutions for various kinds of work.

shows a substantial gain in enrolment over last year. The attendance is 596 as compared with but 553 at the close of the first term in 1914.

The enrolment by classes is as follows: freshmen, 179; sophomores, 165; juniors, 95; seniors, 124; specials, 25; graduates, 8.

SCIENCE ADDS TO PROFIT

(Concluded from Page One)

horning was done, and in two orchards where there was a fair set of fruit partial heading in was done. Wherever the owner had young trees, demonstration work was done in pruning for the formation of proper top. Along with this work was carried on a marketing propaganda by which the owner was put in touch with buyers and was given some idea of publicity methods, the proper grades in packing, and the sale of culms and by-products.

EVERY LOCALITY SHOWS RESULTS

In all, contracts were made with 25 owners and renters and in every locality striking results have been obtained in one or more lines.

In one orchard near Grantville where the orchard had been in grass for a number of years one-half of the orchard was put under the plow.

The difference between this portion of the orchard and that which was left in grass is so striking in color of foliage and growth that it can be seen for a considerable distance. This demonstration alone shows the people of the community that moisture is not everything in the production of good trees and good fruit. In the same orchard as well as in one at Baldwin there are striking results in the control of apple blotch by spraying at the proper time.

In view of the great amount of blotch in these two orchards, the owners were prevailed upon to start spraying fifteen days after blossom fall. The time usually considered to be proper for spraying is 18 to 21 days. Both of these men got a portion of their orchards sprayed when rain prevented their spraying for a week to 10 days. In that portion of each orchard that was sprayed on the fifteenth day there is very little blotch on varieties that are susceptible to this disease, such as Missouri pippin, Ben Davis, and Gano. In that portion of the orchard which was not sprayed at the proper time the blotch had developed to an extent almost equal to last year under hit and miss spraying.

SHOULD PLAN THINGS AHEAD

"The farmer who has to stop to repair machinery when he should be at work in the field is not an efficient manager, provided the repairs could have been made before the machinery was needed. The efficient manager plans things ahead so that he will not be doing the thing that should have been done long ago.

"There is still another important point that the farmer must look out for. He must have a thorough knowledge of farming conditions and the conditions under which he is working. He must be able to organize and operate his forces so that he may avoid waste of time and loss of crops. The man who is able to do these things is the man who has good common sense judgment on matters regarding his farm.

NO SET OF RULES

"We can safely say that there is no set of rules to follow beyond the necessary intelligence to manage one's affairs.

"Often, however, the success of a farm depends more upon the conditions surrounding the farm than upon the man himself. These conditions must facilitate the exercise of one's abilities.

"You see that the conditions upon the farm play an important role in the attainment of success. Take two men in identical circumstances. The man who is the more intelligent and better educated, has better business sense, is more industrious, will usually be the more successful farmer. When you put men under different conditions, then these conditions will often outweigh the personal characteristics of the man."

The man who thinks that a dairy cow can rough it and still be a profitable milker has some things to learn about cows. No animal shows the bad results of neglect quicker than a good cow. And none responds more fully to good care, good feeding, and kind treatment.—Dry-Farming and Rural Homes.

THE KANSAS INDUSTRIALIST

Volume 42

Kansas State Agricultural College, Manhattan, Saturday, October 9, 1915

Number 3

NO SMALL BOYS WANTED

MODERN ORCHARDIST LEAVES JOHNNY IN GRANDMA GRUNDY'S YARD

Fruit Picking Has Been Reduced to Science by Commercial Growers, Says F. S. Merrill—Proper Equipment Is of Great Importance

As an independent picker in Grandma Grundy's backyard orchard, Johnny "can't be beat," but in the harvesting of a commercial crop the small boy no longer has a place.

No more skinning up trees or carelessly dropping of the fruit into baskets!

In the best managed orchards, picking has been reduced to a science, along with all the other phases of the apple industry, according to F. S. Merrill of the department of horticulture in the Kansas State Agricultural college.

WATCH Maturity OF FRUIT

"The first thing to be considered in the picking of fruit is its degree of maturity," said Mr. Merrill. "This depends upon the kind of fruit, upon its characteristics, and upon the distance from market."

"In general, apples and pears ripen best in the storehouse. Stone fruits should be ripened on the tree, and grapes should be left to mature on the vine."

"The firm varieties of apples stay on the tree longer than the soft and mealy ones and may be picked later. A sweet apple, such as the Hubbards-ton, should be picked early in the season. Summer and mealy varieties should be picked as soon as the skin changes color."

"The maturity of apples can easily be ascertained by the color of the seed and the ease of separation of the fruit from the stem."

"When it is a long distance to market, early picking must be the rule, so as to insure the arrival of the fruit in good condition."

DON'T USE WOVEN BASKETS

"The picking equipment is important. The receptacles used vary. If baskets are employed, they should never be of the woven kind, as these are apt to bruise and wrinkle the fruit, thus lowering its market value."

"Pails are inconvenient for use in large orchards. The apples have to be poured out again into the boxes or barrels used for shipping and thus run a chance of being injured."

"The most satisfactory receptacle is a type of bag especially devised for picking apples. A homemade bag may be used. Take a common gunny sack. Rip it open and hem the bottom. Attach two large hooks to the edges of the lower end and adjust cloth straps to the upper end so that the sack can hang from the shoulders and in front of the picker. These straps are fitted with rings at the places where they are attached to the bag."

NO REHANDLING NECESSARY

"When in use, the bag is folded a third of the way up, the hooks being fastened to the rings. The advantage of such a bag is that when it is full the hooks may be unfastened and the apples let gently down into the receiving barrel or box. No pouring or re-handling is necessary."

"For picking the lowest apples, step-ladders are commonly used. The limbs should never be bruised, because of the danger of infection. The old-fashioned ladder with straight sides is being abandoned universally in favor of the pointed ladder. The latter fits into tree crotches and is more secure than the old style of apparatus."

"Never allow the fruit to be exposed to the sun after it is picked."

"Much depends upon care in handling. Stems never should be broken

off or pulled out, as this encourages early rotting.

"Perhaps the most important thing to guard against is the breakage of fruit spurs. Fruit spurs never recur when once broken off. As these represent the future wealth of the tree, it pays to be careful."

WICHITA EXHIBITS SHOW AGRONOMY AND MILLING

Baking Tests Will Be Made Daily During Fair—Steps in Producing Pure Strain of Wheat Are Presented

The milling and agronomy departments of the Kansas State Agricultural college are giving a joint exhibit at the Wichita fair and exposition.

A small experimental mill and baking laboratory occupy a part of the booth, and milling work and baking tests will be carried on every day throughout the fair.

The agricultural exhibit consists mainly of wheat, and charts showing the results of experiments, together with methods of improvement. Twenty-two different varieties of wheat are shown in bundles. These include the common wheats grown in Kansas, and also some of the improved varieties from the experiment station.

The different steps in the production of a pure strain of wheat are shown. This is done by a series of photographs taking the wheat from the time the individual head is planted up to the point where there are several acres. There are eleven photographs all of which are labeled so that the steps will be self-explanatory.

Another feature shows the results of experiments carried on at the college station in the use of barnyard manure in growing wheat continuously. This is given in chart form and the results show the yields on manured and unmanured wheat for 1912, 1913, 1914, 1915, and the average for this time.

COLLEGE GETS INTO FIRST CLASS FOR SECOND TIME

Is Ranked by War Department Among Ten Distinguished Institutions

For the second successive year the Kansas State Agricultural college ranks as one of the ten "distinguished institutions" of the United States in the records of the war department.

All the institutions in the country at which federal army officers are stationed to give military instruction, are inspected annually and are ranked by the war department authorities. The ten best are given the title of "distinguished institutions," and under certain conditions the young men who have held offices in the military organizations of the colleges may receive commissions in the regular army.

The college was first placed in this class in 1914. Under Lieutenant Roy A. Hill, who is now, as he was then, commandant of the battalion, the military work has been built up to a high standard of proficiency.

FARM BUREAUS TAKE ACTION TO ELIMINATE HESSIAN FLY

Wheat Is Being Held Until Dates When Sowing Has Been Found Safe

A vigorous campaign has been carried on by the farm bureaus in Kansas for the prevention of the Hessian fly in the next year's crop of wheat.

The Jewell county farm bureau reports, through its county agent, Ambrose Folker, that the campaign for seedling wheat after the fly-free date has been well understood and that the recommendations are being carried out by practically every farm bureau member and by many others. Weather and soil conditions have been unfavorable for early seeding this year, but many farmers who are already prepared are holding off.

"Never allow the fruit to be exposed to the sun after it is picked."

"Much depends upon care in handling. Stems never should be broken

NEW HONOR TO JARDINE

DEAN OF AGRICULTURE HEADS INTERNATIONAL FARM CONGRESS

Grain Judging Team from College Wins First Place and Will Bring Back Silver Cup—Many Members of Faculty on Program

W. M. Jardine, dean of agriculture in the Kansas State Agricultural college, was elected president of the International Farm congress in Denver Thursday afternoon. He is the second Kansas man to hold the position, Dr. Henry Jackson Waters, president of the college, having been elected to the office at Tulsa, Okla., in 1913.

Dean Jardine has for some time been a member of the board of governors of the organization, which comprises representatives not only from many states in the United States, but from numerous foreign countries. The body was formerly known as the International Dry Farming congress.

COLLEGE TO KEEP PRIZE

Kansas was further honored at the big congress and exposition by the fact that its grain judging team won first place for the third successive time, thus giving the college permanent possession of the beautiful silver loving cup which is awarded as a prize. The team consisted of H. R. Sumner of Manhattan, J. V. Quigley of Blaine, and J. J. Bayles of Manhattan, J. R. Mason of Seneca was the alternate. The team was coached by S. C. Salmon, associate professor of farm crops.

The institution was well represented on the program. Albert Dickens, professor of horticulture, spoke on "Short Grass Gardens."

H. B. Walker, state irrigation engineer, used for his subject "The Relation of Irrigation to Dry Farming."

W. A. Cochel, professor of animal husbandry, made an address

at the live stock session, as did O. E.

Reed, professor of dairy husbandry,

at the dairy session. L. E. Call, pro-

fessor of agronomy, was one of the

speakers on crops; J. E. Dorman,

superintendent of the dairy division of

the United States department of agri-

culture, Salt Lake City, spoke on "The

Possibilities of Dairying in the Dry

Land States."

Mr. Dorman was formerly a student in the college.

FARM MOTOR COURSES OPEN TO ALL COLLEGE STUDENTS

Engineering Division Also Announces Changes in Name of Subjects

In order to prevent the students of the school of agriculture and the college students from being assigned to the same sections, the names designating courses in gas engines and traction engines for college students, other than engineering, have been changed to "Farm Motors A-I," "Farm Motors A-II," and "Farm Motors A-III."

These courses are described on page 209 of the latest college catalogue. The names "Gas Engines" and "Traction Engines" have been retained for such courses as are offered to students in the school of agriculture and are described on pages 117 and 118 of the college catalogue. Courses in Farm Motors A-I, Farm Motors A-II, and Farm Motors A-III are open as electives to all college students in the various divisions.

INTEREST IN COLT SHOWS

IN NORTHWESTERN KANSAS

Local People Give Prizes and Attend Exhibitions—Paterson Judges Animals

A notable series of colt shows has been conducted in the following towns of northwestern Kansas: Dresden, Clayton, Almena, Norcatur, and Kanona. H. T. Nielsen, district agricultural agent for northwestern Kansas, in co-operation with local people, made all arrangements for these colt shows and raised sufficient money locally for

prizes to bring out a fine string of colts at every point.

A. M. Paterson of the animal husbandry department of the college was present at all these shows to do the judging and give reasons for the placings. The interest taken by the people was exceptionally good, and there was a large attendance at every point, in spite of the fact that the farmers were exceedingly busy with threshing and preparing land for wheat.

Other colt shows are being planned by Mr. Nielsen in connection with institutes in northwestern Kansas this fall.

KANSAS RANKS SECOND IN JUDGING CONTEST

College Team Takes High Place at American Royal Stock Show—Hale Makes Strong Individual Record

The Kansas State Agricultural college took second place in the annual intercollegiate stock judging contest at the American Royal show in Kansas City this week. The University of Missouri was awarded first honors. The Iowa State college and the University of Nebraska were given third and fourth places, respectively.

C. W. Shepherd of the University of Missouri was high man in the contest, being credited with 744 points of a possible eight hundred. Preston Hale of the college team took third place—and a trophy cup. His record was 728 points. C. F. McIlrath of the local team was ninth best man, and came away with a ten dollar bill presented in recognition of his good work.

Following are the members of the team representing Kansas State Agricultural college: Preston Hale, Manhattan; C. F. McIlrath, Kingman; Paul Gwin, Morrowville; Fred Cromer, Manhattan; and W. L. Wilhoit, Manhattan. R. W. Taylor was the alternate.

Contest results since 1907 follow:

1907—Iowa, Missouri, Kansas.

1908—Kansas, Iowa, Missouri.

1909—Missouri, Iowa, Kansas, and Nebraska.

1910—Iowa, Missouri, Kansas, Nebraska.

1911—Kansas, Iowa, Missouri.

1912—Nebraska, Iowa, Arkansas, Missouri, Kansas.

1913—Iowa, Missouri, Kansas, Nebraska.

1915—Missouri, Kansas, Iowa, Nebraska.

There was no show in 1914 on account of the foot and mouth disease.

COLLEGE HOLDS FIELD DAY FOR ORCHARDISTS

Fruit Growers See Importance of Scientific Method—Demonstration in Picking and Packing Forms Feature

The Kansas State Agricultural college recently held a "field day" at Grantville under the direction of George O. Greene, extension horticulturist, for the purpose of demonstrating to fruit growers the value of doing the right thing at the right time.

The demonstration orchard had been divided into blocks, some of which had been pruned while others had not been given that attention. Several had been sprayed correctly at the right time, while others, because of the excessive rains, had not been sprayed at the right time, though the proper material had been used.

More than 20 leading growers from the vicinity of Grantville were present, aside from others who had come from elsewhere in the state.

The demonstration orchard proved conclusively the value of the adoption of scientific methods in orchard management. An interesting feature of the meeting of fruit men was a demonstration in picking and packing.

Some of the students in the college horticultural classes attended the demonstration.

TIME FOR COLT SHOWS

EXHIBITIONS SHOULD BE HELD IN OCTOBER OR EARLY NOVEMBER

Awaken the People's Interest in Horses, Urges Dr. C. W. McCampbell—Don't Try to Duplicate State Fair Plans—Suggestions as to Prizes

KANSAS AND HORSES

Kansas farmers have more money invested in horses than in all other classes of stock combined.

It costs more money to raise and maintain a horse than any other kind of farm live stock.

High class draft horses are in greater demand and will sell at greater profit than other classes of farm live stock.

Common and inferior horses are less in demand and sell at a greater loss than any other class of farm stock.

Less improvement has been made in horses than in any other class of farm live stock.

These are some of the facts given by Dr. C. W. McCampbell, assistant professor of animal husbandry in the Kansas State Agricultural college, in emphasizing the importance to Kansas farmers of holding colt shows.

"The colt show idea is spreading rapidly in Kansas," says Dr. McCampbell. "Something must be done to awaken the people to giving more attention to horses. The colt show is one of the best means of arousing interest. The college is always ready to make suggestions and arrange programs.

CHANCE FOR GOOD SHOWING

"The best time of year for holding colt shows is in October and the early part of November. There is now little time for preparation, but with the proper energy and backing a creditable show may be put on this season.

"At this time of year the colts are usually weaned and broken to halter, and can be displayed to the best advantage."

Dr. McCampbell says that the mistake is often made of trying to duplicate state fair classifications. He urges that six prizes be given in each class.

Special stress is placed upon the importance of having a competent judge.

"Any Tom, Dick, or Harry, should not be picked up just because he is a good fellow," warns Dr. McCampbell. "The colt show manager should remember that the colt class is the hardest class of horses to judge. The judge should be required to give the reasons for his placing.

"Adequate accommodations for the colts should be provided. Exhibitors should not be compelled to tie them to wire fences or wagons."

In no case should there be less than six prizes in a class, but the prizes may vary to conform to local conditions.

EXPERT ADVISES SIX CLASSES

Dr. McCampbell suggests the following offerings:

Draft colts sired by purebred sires—

\$5, \$4, \$3, \$2, \$1.

Mule colts sired by registered Jacks—

\$5, \$4, \$3, \$2, \$1.

Farm teams (horses) weighing 2,800 pounds or more—\$8, \$7, \$5, \$4, \$3, \$2.

Farm teams (horses) weighing less than 2,800 pounds—\$5, \$4, \$3, \$2, \$1.

Farm teams (mules) weighing 2,300 pounds or more—\$8, \$7, \$5, \$4, \$3, \$2.

Farm teams (mules) weighing less than 2,300 pounds—\$5, \$4, \$3, \$2, \$1.

Emphasis should be placed upon the honor of winning prizes in colt shows rather than upon the money received, according to Dr. McCampbell.

THE KANSAS INDUSTRIALIST

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N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

Except for contributions from officers of the college and members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism. The mechanical work is done by the department of printing. Of these departments Prof. N. A. Crawford is head.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

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SATURDAY, OCTOBER 9, 1910

Didn't all the warring nations predict that their enemies would be humbled by now?

If the man who has invented an all steel automobile tire proves his invention a success, he will have the gratitude of everybody except garage owners.

No farmer in western Kansas should forget the irrigation congress at Garden City this week. It is a chance to see the practical results of irrigation as well as to hear about it.

Emanuel Estrada Cabrera, the new president of Guatemala, might be sent to Mexico on a peace mission. His ability to deal with difficulties is shown by his having shot 800 of his Guatemalan enemies.

A Tennessee coffin manufacturer is charged with having a unique but appropriate way of boosting his business. The authorities assert that he shipped in each coffin some whisky as a present to the customer.

AROUSING INTEREST

Anything which tends to interest the mass of citizens in agriculture is worth while. That is one of the chief purposes of state and county fairs. It is one of the chief values of the big wheat show at Wichita.

Kansas has many important agricultural products. These may best, perhaps, be brought to public attention by emphasis on them one by one.

Wichita is doing a fine thing for the state by pointing out the importance of wheat in modern agriculture. The fact that this show is held in one of the largest cities of the state insures that it will attract the interest of urban dwellers, who need to know of farming and its possibilities if they are to promote city industries that will be of the greatest value to an agricultural state.

WHY?

Why, in the name of common sense, when newspapers bar it, grammars censure it, and preachers themselves protest against it, do people persist in calling their ministers "Reverend Smith," "Reverend Brown," and so forth to the end of the catalogue of names? It would be just as sensible to refer to the president of the United States as "Honorable Wilson."

A clergyman remarked the other day that this senseless habit had become the bane of his existence. He is longing for some one to call him simply "Mr. Smith." He does not object, nor does any other minister, to being referred to as the Reverend John Smith, or the Reverend Mr. Smith, but he does object, as do all other sensible clergymen, to the barbarism of "reverend" without title or given name.

A FUTURE VICTORY—PERHAPS

Art has to its credit many ethical victories—none less striking, either, because they were won not in the effort to portray ethics, but to portray life.

Is it not possible that through the present war art will at least help win another victory—a victory of peace? If you have looked at the pictures painted of war scenes, if you have read the poetry that the war has inspired,

you can hardly fail to have been impressed with the intense, sometimes ghastly realism with which the painter or the poet has worked. War is no longer an adventure. No longer is he "happy who draws his sword." The glamor of romance has gone, and there is left the sordidness of war in its reality.

The terror and the horror of war can be realized through realistic art more thoroughly than by any other means except actual experience. If all men who see and hear realize what war is, war can hardly retain a place among civilized nations. Stripped of its glamorous garments, it will stand forth a naked personification of evil.

A MATTER OF INEFFICIENCY

"Some of our merchants who I know would be opposed to mail order houses do their advertising out of town," says the Alva (Okla.) Review. To add to the Review editor's experience, it may be remarked that in some small towns the wives of the local storekeepers buy their clothing in the nearest big city.

When things like this happen, however, they are not due, as some people think, to a well-thought-out effort to violate the Golden Rule. They are ordinarily based on inefficiency somewhere in the merchants' establishments. If a store doesn't carry a line good enough to suit the storekeeper's family, it can hardly be expected to suit everybody else in town. What the merchant needs to do to meet mail order competition is to build up his stock and possibly also improve his business methods.

The same situation is likely to be at the basis of the attitude of the small merchant who advertises out of town instead of in his home newspaper. If a merchant can't build up his home town trade by advertising, either he doesn't know anything about writing advertising or else his stock is such that people don't want it after they have come to the store in response to the advertising. In either case the matter is one of inefficiency. Except in a big city, where he depends somewhat on trade from a considerable distance, the average merchant can build up as big a business as he can handle in the territory reached by the newspapers in his own town.

AN INEXPENSIVE ARBOR

An attractive arbor is so simple and easy to construct that it should appeal to farmers who are interested in making their premises beautiful as well as profitable.

This arbor consists of four octagonal cinder-concrete columns surmounted by undressed timber. To construct the columns requires three cubic yards of cinders and three barrels of cement. The work was done by one man in four days. This mixture, however, is too lean and unsafe for the unskilled worker to use, and the proper proportions of cement, sand, and stone are given below.

The arbor is 8 by 12 feet. The columns are 7½ feet high, two feet at the base, and 18 inches at the top. Each has a foundation of concrete two feet six inches each way—in other words, a concrete cube of that dimension. A square form of boards was erected and corner pieces inserted to form the octagon. It was intended to give the columns a finishing coat of plaster, but they looked so well in their crude state that it was never applied.

Simple designs of this type compare favorably with the most costly and ornate conceptions and are made at greatly reduced cost. Had the columns been elaborate in design and surmounted with dressed timbers it is questionable whether the arbor could have been built for less than \$100. Moreover, many people of good taste would prefer the more rude and simple patterns. These columns take their place in the landscape with the unobtrusiveness of a tree, while their rough surface is better adapted to the growing vines than columns possessing a smooth surface. In fact, the columns on the world-famous terrace at Amalfi are even more simple than these octagonal forms.—Toronto Mail and Empire.

LAUGHTER OF THE EARTH

The laughter of the earth is expressed in her best gifts for the good of mankind—the yields of the fields and the orchards.

It was but yesterday that the green sprouts of the corn peeped above the soil; and the wind caressed, the sun kissed, the rains bathed the slender stocks day after day until they stood massed in tasseled glory throughout all the states; and the wind and the sun and the rain ceased not in their loving ministrations, nor did the hand of the cultivator pause, until the ripe, ripe ears hung heavy from the multitudinous stalks, reminding one, as John Fox puts it, of brown armies of monks at prayer.

Soon will go trooping afield armies of brawny armed and bright-eyed men;

proprietorship in the same sporting-way as his fellow American millionaire Mr. Vanderbilt took to running the Brighton coach, and both were sights for proprietors who were in the business for ideals or for profits to admire rather than imitate. The Pall Mall Gazette under Mr. Cust's editorship is still spoken of in Fleet street as the golden age of journalism. The Astor management also gave us Mr. J. L. Garvin as editor, and he has given Fleet street some of its brightest and liveliest moments. He will now concentrate his gifts upon the Observer, which he has already made so individual and interesting an organ. The head of the new syndicate which has acquired the Pall Mall Gazette is Mr. Davidson Dalziel, the Unionist member for Brixton, formerly chairman of

DREAM-PEDLARY

Thomas Lovell Beddoes

If there were dreams to sell,
What would you buy?
Some cost a passing bell;
Some a light sigh,
That shakes from Life's fresh crown
Only a rose-leaf down.
If there were dreams to sell,
Merry and sad to tell,
And the crier rang the bell,
What would you buy?

SUNFLOWERS

It may seem inconsistent, but a man of small caliber is usually large bore.

The professional talker usually has little time to devote to the other necessities of life.

Some merchants show no more interest in keeping a customer than a postal clerk does.

A PLATEAU, AS 'TWERE

The Topeka State Journal informs its readers that child hygiene conditions in its city are "on a high plain."

Daniel Rossetti Jenkins, who was acting vice-president of the Ancient Society of Sons of Balaam last week, says he should like a permanent executive position.

When there is no trade in a barber shop, a customer waits longer than when all the chairs are busy, for when business is dull the barbers are always massaging each other.

CLEANLY TEXAS

"Passengers and employees are prohibited by the laws of Texas from washing their teeth and expectorating in wash basins."—A Texas railway car sign.

DEDICATED TO GERTIE

The autumn days come swiftly on,
The snow is on the way;
It's time to shed that thick white fur
And dress decolleté.

WHERE LITERALNESS IS BLISS

When it comes to literal-mindedness, Lawrence takes the 115-piece-set-of-china-beautifully-decorated-in-pink-and-gold. A clergyman there wanted to show his people the folly of war, so he preached a sermon—with the finest irony—urging Christ as the advocate of bloodshed. Irony, it seems, however, was a little figure of speech that the members of his congregation hadn't come across in their rhetorical studies, and they got so excited about their minister's deserting the cause of peace that he had to preach a sermon the next Sunday telling what he meant in the first place.

A QUARTER CENTURY AGO

Items from *The Industrialist* of October 11, 1890

Professor Georgeson drives a new horse.

The tennis club have grounds near the armory.

Professor Walters went to Topeka yesterday afternoon.

Belle Selby, '82, will shortly open a studio in Manhattan.

H. F. Roberts, third-year in 1887-'88, completes his course at the university this year.

The second-years defeated the third-years in a game of ball yesterday afternoon by a score of 9 to 5.

The carpenter shop is crowded with 181 students, 171 of whom are in wood-wook, 6 in ironwork, and 4 are special students.

Under the influence of the late rains and genial sunshine, a number of apple and pear trees, spireas, and bush honeysuckles have blossomed a second time.

Professor Failyer's services as expert witness were in demand again this week in a liquor case at Belleville. The defendant, on learning that our chemist had been summoned to testify, readily agreed to settle without going to trial.

Assistant Breese's buggy and harness, stolen last spring, were found a few days ago in a deep gulch near the cemetery. They were well concealed by weeds and brush, and are not much the worse for their long exposure to the elements. Mr. Breese has a buggy for sale now.

DISTRIBUTING FARM PRODUCTS

Any good method for the better distribution of farm products works a benefit to both producer and consumer, but its application too often is forgotten at both ends of the line. The farmer often is prone to dismiss a new idea with the thought that it will benefit only the city folk who consume his products. The urbanite likewise often seems unwilling to coöperate simply because he avows that the new scheme will merely put more money in the farmer's pocket, and add nothing to his bill of fare. When both parties realize that easy modes of distribution will confer benefits on both sender and receiver, then there will be more eagerness to prevent the rotting of fruit in farmers' orchards.

Some of the railroads, being an indispensable go-between, are coming to realize that they have an inviting opportunity to bring about a better relationship between producer and consumer. For example, the Pennsylvania railroad has taken an advanced step by publishing a directory of fruit, vegetable, and produce growers along its eastern lines. It contains the names of 10,000 truckmen and orchardists, together with a long list of prospective buyers in the contiguous territory. Plans of this kind, and a larger general use of the parcel post, will do much to advantage both producers and consumers.—Breeder's Gazette.

AMONG THE ALUMNI

W. F. Smith, '15, of Mankato spent Tuesday and Wednesday in Manhattan.

J. B. Dorman is now located at Pangburn, Ark., to which he moved from Russellville.

L. A. O'Brien, '14, is in the drafting department of the Western Electric company at Cicero, Ill.

W. R. Reeves, '15, is county agent of Crook county, Wyoming. His headquarters are at Sundance.

Miss Alta C. Roberts, '14, is teaching domestic science and general science in the high school at Lenox, Iowa.

Miss Alma G. Halbower, '14, is a graduate student in Teachers' college, Columbia university. She is majoring in nutrition.

William A. Lathrop, '15, is in the educational department of the Western Electric company at Cicero, Ill. He is taking the manufacturing course.

Mrs. A. L. Burns, formerly Miss Ruth Gilbert, '14, is living at 560 West 184th street, New York City. Mr. Burns is a commercial chemist in the city.

Louis Wermelskirchen, '11, has resigned his work in the federal department of agriculture to become agronomist in Texas Agricultural Experiment station, College Station, Tex. He assumes his new duties October 15.

BIRTHS

Born, to Mr. M. L. Pearson, '11, and Mrs. Pearson at Austin, Tex., on September 6, a son, Forest Simms.

Born, to Mr. Charles Franklin Kinman, '04, and Mrs. Kinman at Mayaguez, Porto Rico, on September 13, a daughter, Edna Frances.

MARRIAGE

STAFFORD-HUNGERFORD
Miss Le Nette Stafford and Mr. Arthur B. Hungerford were married September 26 at the home of the bride's parents, Mr. and Mrs. Frank Stafford, Osborne, Kan. Mr. Hungerford was a senior in architecture in the fall of 1912. He is a son of the present county clerk of Riley county.

OLDER ALUMNI SHOW INTEREST
The older alumni of the college are more interested than the younger ones if responses to the letters sent out by the alumni association are to be taken as evidence. While the responses have not been nearly so widespread as had been hoped, the members of the classes of several years ago have shown the largest amount of interest. If any alumnus failed to receive the letter, he may read it here:

"Your alumni association meeting in annual session June 16, 1915, authorized the board of directors of the association to appoint an advisory council to confer with the president and board of administration of the college on matters pertaining to curricula, policy, and new enterprises; further, they authorized the board to invite the class of 1916 as our guests at the annual commencement dinner. Moreover, in connection with the alumni associations of the university and state normal school, we have begun a campaign, statewide in scope, to have submitted eventually to the people an amendment to the state constitution providing for a special tax, the entire proceeds thereof to be applied to the development of these institutions. Surely you will be in sympathy with such a project."

"All of these enterprises will require funds. Therefore the board, in accordance with your constitution, has levied an assessment of one dollar on each member of this association to meet these added expenses."

"If the alumni association is to be of any influence or of any service to the college it must have the financial and active support of each alumnus."

"Kindly send your personal check or money order to Ada Rice, secretary, Manhattan, Kan."

"Trusting to your loyalty to the college and to your interest in her future advancement, we feel confident of your hearty cooperation in this matter."

These are some of the replies so far received:

W. O. Gray, '04, Worland, Wyo.: "The circular letter under July 12 at hand. Inclosed you will find my check for \$1. Glad there are some live ones among us. Success to you in this project. It strikes the keynote with me."

L. M. Peairs, '05, Morgantown, W. Va.: "I am inclosing check for \$1 as requested in the circular letter. I trust that the work outlined in the letter will succeed and that things may continue to progress in the future as in the past. Am sorry that I cannot take advantage of the home-coming day but hope to see Manhattan later in the fall."

James R. Coxen, '07, Southwest Texas State Normal school, San Marcos, Tex.: "I am very much in favor of the activities mentioned in your circular letter, especially the plan to submit an amendment providing for a state tax. I hope, however, that the question will not be placed before the people until they are well informed as to the purpose and exact meaning of the amendment. I have seen a number of worthy educational plans lose out in Texas and the only reason was lack of the right kind of publicity."

C. S. Dearborn, '04, Bozeman, Mont.: "Your request for contribution to a fund to meet divers expenses is at hand, and I inclose herewith draft to cover the assessment against my wife and myself. I am heartily in sympathy with the movement to so amend the constitution of the state that the several institutions of higher education will have at their disposal the proceeds of a special tax, because I am in part acquainted with some of the evils of the lobbying system of securing appropriations. If I can help further, I shall be glad to do so."

TELLS STUDENTS WHAT STORIES EDITORS WANT

H. M. Ziegler Gives Prospective Journalists Pointers on Essentials of Successful Writing for Agricultural Press

Harry M. Ziegler, a graduate of the Kansas State Agricultural college, now associate editor of Farm and Fireside, Springfield, Ohio, addressed the students in industrial journalism Tuesday. He gave practical advice on "Writing Farm Stories."

Mr. Ziegler placed accuracy as the first essential in the preparation of articles for farm papers. "Stories" should be chatty or they will fail to appeal to the average reader, he said. They should be short and timely.

Mr. Ziegler told many interesting facts concerning the management of a big farm paper. What he said about the make-up of Farm and Fireside, which is one of the leading farm publications of the country, with a circulation of 700,000, was of particular interest to his hearers.

In his senior year at the college Mr. Ziegler edited the Kansas State Collegian. He was a member of the class of 1914.

AGGIE TEAM PREPARES FOR BIG BATTLE WITH NEBRASKA

Does Not Look for Victory but Will Put Up Stiff Fight

The Aggie football team has been doing hard scrimmage work this week preparatory to the contest Saturday with the Cornhuskers at Lincoln. While even the most optimistic have not been looking for victory, the team left Manhattan Friday night determined to put up a stiff fight.

"We are going to give them our best—man can do no more," said John R. Bender, coach.

The Nebraska team is not only heavy but fast, while the Aggies are exceptionally light.

Members of the squad who left for Nebraska:

Skinner, le; Moore, rg; Wright, c; Baird, lg; Ptacek, lt; Randells, re; Sullivan, q; Hartwig, fb; B. Barnes, rh; Franz, rg; Wilder, lh; Doderill, rt; McGalliard, lh; Slattery, le; S. Barnes, lh; Oliver, rt; Alexander, q; Harwood, fb; Englund, lt; Bayer, rt;

The Nebraska lineup: Captain Rutherford, lh; Doyle, f; Reese, rh; Cook, q; Chamberlain, le; Corey, lt; Donegan, la; Moser, c; Abbott, rg; Shields, rt; Riddell, re.

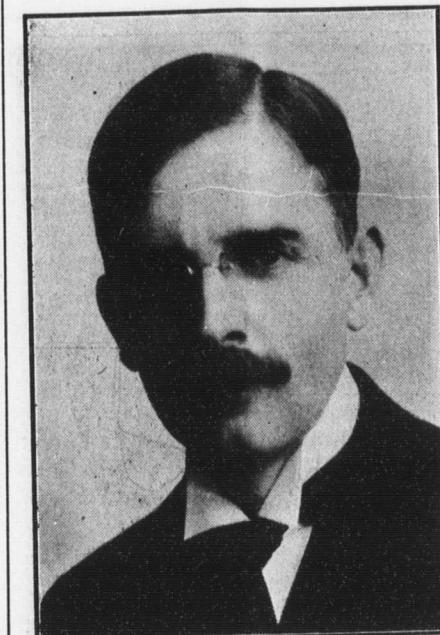
THEY DO LIKE TO ARGUE

BOYS AND GIRLS BOTH ARE KEEN FOR COLLEGE DEBATES

More Than 100 Students Are Trying for Places—Institution Will Have Squad of 48 in Field—Many Contests Already Arranged

Interest in debating is keener this fall among the students in the Kansas State Agricultural college than at any previous time in the history of the college. More than 100 members of eight debating societies will try out for places on the teams, and 36 persons will actually participate in the six intercollegiate debates. The regular debating squad for the year will consist of 48 students—24 men and 24 women.

The first debate will be a tristate event for men, with the University of



DR. J. R. MACARTHUR

South Dakota, the Iowa State College, and the Kansas State Agricultural college competing. The question: "Resolved, that the United States should own and operate the telephone and telegraph systems as part of the postal service."

Floyd Hawkins will be captain of the team that will remain at the college to meet Ames. J. L. Lush will go with the team to South Dakota.

WOMEN IN DUAL DEBATE

The second debate will be a dual event for women—Kansas State Agricultural college vs. Kansas Wesleyan university, Salina. The subject: "Resolved, that the United States should immediately make a decided increase in her armament." Miss Rose Baker will be the captain of the local team, taking the affirmative side of the question. Miss Mary Dakin will head the team that will take the opposite attitude at Salina.

The third debate will be held January 28—Kansas State Agricultural college vs. Kansas State Normal. The subject for discussion has not been chosen, nor have the teams been picked.

A dual debate for women with Washburn college will be the fourth event in the series. This probably will come in February. The Monroe Doctrine will be up for argument.

PENTANGULAR CONTEST NEXT

A pentangular contest in which the Kansas State Agricultural college, Baker university, Washburn college, the College of Emporia, and Ottawa university will take part will be held next spring. In this contest each institution will have two teams and each of the teams will debate twice. The debating will take place March 24 and April 14. Contestants will speak for and against the Monroe Doctrine. The affirmative will be championed by J. B. Sweet, and the negative by J. V. Quigley.

The details of the sixth debate have not yet been arranged. This will be a dual event for women. The captains will be Miss Florence Justin and Miss May Sweet.

Dr. John R. MacArthur, debating coach, anticipates a successful year in debate. Dr. J. G. Emerson, who is in charge of public speaking, and who has had broad experience in debating

contests, is expected to prove invaluable in the work of whipping the respective teams into shape. J. W. Searson, professor of the English language, is the managing coach.

ADVERTISE YOUR APPLES FOR RETAIL CUSTOMERS

Fruit Grower Can Find Market Among Farmer Neighbors—Use Modern Publicity Methods

Sell your apples to your neighbors. This is the advice given by the agricultural college to Kansas apple growers. It is pointed out that the small home orchards are practically all gone and that the farmer neighbors must buy fruit for the family of the professional fruit grower. Use telephone, newspapers, post cards, posters, and bulletin boards to let the public know where good fruit may be obtained, urge the college experts.

The college, after going over the territory pretty thoroughly, feels that there are very few localities where more than enough apples will be produced for home consumption, and even in those sections where considerable fruit is grown a great deal of it may be sold to farmers and town folk who will come to the orchards and haul it away. This orchard trade is the most profitable of all. The grower needs no package, has no grading and very little sorting to do, no packing, hauling, storage, or freight expenses to meet.

This sort of trade can well afford to pay as much for orchard run, soft rots out, as the buyer can for the first two grades. The packer must maintain grading machinery, tables, packages, the expenses of picking, packing, hauling, freight, storage, and handling. He can not afford to pay much for orchards where he can only pack from one to few cars.

The extension division of the college is receiving many requests from fruit growers, however, for lists of retail and wholesale buyers of apples who will buy apples on the trees or on the table, the buyer to furnish packages and pack the fruit. These lists are being sent out and efforts are made to interest the buyers and to bring growers and packers together.

WATERS WILL PRESIDE OVER BIG WHEAT SHOW

College President Heads Program at Wichita—Other Professors in Institution to Speak

Dr. H. J. Waters, president of the college, will preside Monday and Tuesday at the program of the International Wheat congress. Of this organization he is president.

The program Monday morning will consist of an address of welcome by A. M. Bentley, mayor of Wichita, and the response by Doctor Waters, and an illustrated address by L. E. Call, professor of agronomy in the college, on "Wheat Growing in Kansas."

Two agricultural college men are on the afternoon program also. L. A. Fitz, professor of milling industry, will speak on "The Milling Qualities of Wheat as Affected by the Soil." "The Hessian Fly Problem" will be the subject of an address by George A. Dean, professor of entomology.

Tuesday morning, W. M. Jardine, dean of agriculture, will make an illustrated address on "The Principal Problems of Wheat Growing in Kansas."

MAN WHO IS WORTH MOST TO TEAM WILL GET LOVING CUP

New Method for Arousing Interest in Football—Kittell Gives Prize

The college athletic board through the generosity of Elmer Kittell, '12, will turn over a loving cup at the close of the season to the man whose services are deemed the most valuable on the football squad.

"This is a great idea," said John R. Bender, coach. "It will tend to keep the boys fighting all the time."

A Boston newspaper says that grey or black newspapers are coming, but it may be that we will prefer them to a yellow press.—Toronto Mail and Empire.

RAIN TOPS YEAR RECORD

PRESENT SEASON IS UNPRECEDENTED IN HISTORY OF KANSAS

Total Fall Since January 1 Is More Than 46 Inches—Is Above Annual Mark Set in 1876—Local Reports Go Back Beyond War Times

Rainfall between January 1 and October 1—46.42 inches—exceeded that for any entire year in the 57-year history of the weather record kept in the Kansas State Agricultural college. The total rainfall in 1876, formerly the record year, was 45.78 inches. The average annual precipitation is 31.1 inches.

In what is usually known as the growing season—April, May, June, July, August, and September—the rainfall was 37.31 inches. This has been exceeded in but two seasons, 1908 and 1876, when the precipitation was 38.23 and 37.31 inches respectively.

INTERFERED WITH FARM WORK

Of the 37.31 inches, 28.15 came in May, June, and July, seriously interfering with farm work. The excess of rainfall, the unusual number of cloudy days, and the low rate of evaporation, produced an unprecedented condition on the Kansas farms. Never before in 57 years was so much difficulty experienced in the harvesting of wheat.

J. O. Hamilton, professor of physics, in his weather report for September says that the month will be remembered because of the unusual amount of cloudy weather and the excessive number of wet days. The temperature was normal. The total rainfall for the month was 3.92 inches, which was .82 of an inch more than normal.

COLLEGE HAS BIG PART IN IRRIGATION MEETING

Members of Faculty Will Appear on Program—Visitors Will Inspect Experiment Station Pumping Plant

Not only will the Kansas State Agricultural college be well represented on the program of the fourth annual meeting of the Kansas State Irrigation congress at Garden City, October 13 and 14, but it will be brought to the attention of the 400—more or less—visitors when an automobile trip is made to the big pumping plant at the Garden City Branch Experiment station.

"There could be no better place for the meeting than Garden City," said H. B. Walker, secretary of the congress and associate professor of irrigation and drainage in the college. "Pumping for irrigation has been carried on there for twenty years."

R. A. Seaton, professor of applied mechanics and machine design, will speak Wednesday afternoon, October 13, on "Irrigation Pump Equipment." A. A. Potter, dean of the engineering division, will read a paper on "Oil Engines and Tractors for the Irrigation Farmer." M. C. Sewell, superintendent of the Garden City branch of the experiment station, will read a paper Thursday afternoon on "Irrigation Experiments."

COLLEGE CAFETERIA SERVES MANY STUDENTS FIRST WEEK

Women Are in Majority Among Patrons—Girls Secure Employment

The college cafeteria under the direction of Miss Nola Treat, opened Tuesday noon of this week in Kedzie hall with a patronage of 250, which has gradually increased. From 60 to 80 persons have taken advantage of the lunch room facilities in the evening.

The noon hour attendance has been almost equally divided between men and women, while in the evening women have outnumbered the men by a wide margin. Comparatively few faculty members have tried out the cafeteria plan.

The new cafeteria furnished employment for about 15 girls. Seventy-five persons applied for work.

Next term the cafeteria will provide a laboratory for the institutional courses.

ALL FARMERS MUST KNOW HOW TO GET TOGETHER

GRASP OF FUNDAMENTALS IS ESSENTIAL TO SUCCESS IN COÖPERATIVE ENTERPRISES, SAYS RURAL ECONOMICS SPECIALIST
—DON'T KNOCK BUSINESS MANAGER

A knowledge of the fundamental principles of coöperation is essential in all coöperative enterprises organized for the purpose of making possible the effective marketing of produce, according to Theodore Macklin, instructor in rural economics in the Kansas State Agricultural college, who is a strong advocate of coöperation among Kansas farmers.

"The principles of coöperation are a guide as to when and how to coöperate," says Mr. Macklin. "They must become universally known by farmers if the failures of coöperative concerns are no longer to occur."

"The farmers are daily making greater efforts to market their produce more efficiently. To accomplish this object coöperation has been found to be the greatest single help. Frequently, however, we hear of failures among farmer concerns. These instances raise a very serious question—What good reason is there for such failures? The answer is simple. Nine out of every 10 farmers' companies that go to the wall do so because the coöperators are ignorant of the fundamental principles of coöperation itself. The failures are largely due to ignorance."

SIX GROUPS OF ESSENTIALS

"There are six groups of essentials, a knowledge of which on the part of coöperators, would soon eliminate most of the trouble. These fundamentals are: the essential prerequisites to successful coöperation; the character of the business; the character of the coöperators; organization of the coöperative enterprise; management of the coöperative enterprise; federation of coöperative enterprises.

"If a farmer enterprise is to succeed it must have an abundance of raw material before the business is started, the prospective patrons must feel a very urgent need for coöperating, and there must be enthusiastic and competent leadership. The great majority of farmer concerns have failed because some one of these essential conditions was lacking at the time organization was effected."

BUSINESS MUST BE SIMPLE

"A business to be successfully run on a coöperative plan must be simple in character and easily understood by each of the farmers. This eliminates a large percentage of the possible causes for misunderstandings and a tendency to 'knock' on the undertaking."

"More important still, the business must be of such vital consequence to the coöperators that they will be more or less forced into line, because of the pecuniary advantage thus gained."

"Farmers are particularly suspicious of any speculative risks and this feature should be at the minimum or trouble is likely to arise."

"There are two personal qualities that cannot be too well developed on the part of each coöperator, and there is one which should be absent. The first two are loyalty and enthusiastic coöperative spirit.

"There must not be the common tendency to nag the manager and knock on this and that. By loyalty is meant the necessity of every member's patronizing his company regardless of outside offers no matter how favorable they may be. The coöperative spirit calls for enthusiasm in the united action and a general 'pull-together' feeling. One of the greatest causes for the loss of good managers, on the other hand, is the manner in which they are treated by the patrons. Authority must be solely vested in the manager so far as the business management is concerned. There must be an atmosphere of boosting and not of criticism and knocking, such as frequently exists."

SAVE MONEY FOR PRODUCER

"In order to effect savings for the producers instead of merely interest

for the investors of capital, the enterprise must be organized on a strictly coöperative basis.

"Membership should be unlimited. All persons who are desirable should be eligible—only trouble makers should be kept out.

"The amount of capital to be owned by one man should be limited.

"A nominal and fixed rate of interest only should be allowed on the capital of the company.

"The savings or profits of the concern after expenses have been met, should be returned to the patrons pro rata according to the business done by each. This return, or refund, is called a trade dividend.

"Voting should be either by the 'one-man-one-vote' method or else according to the patronage. It should not be according to the share ownership.

GOOD MANAGER IS IMPORTANT

"The consideration of greatest importance, after sufficient raw material is guaranteed, is the manager. Probably more farmers' companies have failed because of poor managers and lack of business methods than for any other reason. There are two reasons for not having a good manager. Farmers have been unwilling to pay for skill and efficiency and often when they do get a good manager the patrons and members make it uncomfortable for him by constantly nagging about business matters which should be left entirely to the manager. If farmers' companies are to succeed, the securing and retaining of a good, efficient manager are of paramount importance.

"As a help to the manager in properly conducting the enterprise there should be a definite bookkeeping system supplemented regularly by accurate audit of the books. Adequate equipment and ready cash for running expenses are also of prime importance.

"Often local units do not have sufficient produce to enable them to make use of efficient methods in marketing. Whenever there is felt the need of larger quantities of produce under one management, in order that the advantages of efficiency in marketing may be secured, federation offers the opportunity. It has been made use of by many local coöperative ventures with great success. A federation is coöperation among local enterprises just as the local unit is coöperation among farmers. They both have their being to benefit the farmer."

BENDER TO FORM AWKWARD SQUAD OF COLLEGE GIANTS

Coach Takes Steps to Get Heavyweights into Football Uniforms

An innovation in Kansas State Agricultural college football will be an "awkward" squad composed of beef and brawn—men who tip the scales at 200 pounds, more or less. John R. Bender, coach, who has the lightest team in the Missouri Valley conference, wants big men, and is taking the necessary steps to induce the heavyweights to turn out in football togs.

A committee appointed by the "K" fraternity, and consisting of H. H. Frizzell, E. W. Skinner, H. B. Bayer, and W. H. Broddle, will keep one eye "peeled" for overgrown freshmen, stalwart sophomores, and juniors of giant proportions.

"There are enough men in the college to have a team as beefy as that of Minnesota or Chicago," said Coach Bender.

"Every man who thinks that the football germ has ever penetrated his hide is asked to 'suit up' and get into the game. The awkward squad will be driven against the varsity eleven, and some of them may become regulars before the end of the season if they do some real hustling for places."

KILL GRAIN INSECTS NOW

BIG LOSS IS THREATENED THROUGH UNUSUAL INFESTATION

Pests All Succumb to Carbon Bisulphide Fumes—College Expert Tells of Method of Fumigation—Work Must Be Done While Weather Is Warm

If there are any insects in your stored grain, destroy them at once, otherwise you may lose 15 per cent of your grain. Thus advises George A. Dean, entomologist in the agricultural college and experiment station.

During the last six weeks many inquiries have come every day to the department of entomology, that insects were seriously injuring stored grain. Inasmuch as considerable grain was not threshed until late, much of it became infested with the weevil or the Angoumois grain moth while in the stack or the shock. Conditions have

pipe, loosely plugged at one end, down which the carbon bisulphide may be poured, the plug being loosened with a rod. The plug should be attached to the rod in order that it may be withdrawn. The liquid may be applied or sprinkled directly upon the grain. Unless used in excessive quantities the liquid will not injure the edible or germinative qualities of the grains.

GUARD AGAINST FIRE DANGER

The bins or building should be allowed to fumigate 36 hours. If the grain is not to be used for germinating purposes, it is well to subject it to the fumigation for 48 hours. The best plan usually is to apply the liquid on a Saturday afternoon and leave the building closed until the following Monday.

The vapor of this liquid is highly inflammable and explosive. No fire or light of any sort should be allowed about the building while the fumigation is in progress. The application should always be made in daylight, for artificial light of any kind is dangerous.

WESTERN KANSAS IS BUILDING PIT SILOS

Avoid Waste and Guard Against Lean Years, Advises Superintendent Thompson

In accordance with recommendations made by G. E. Thompson, superintendent of branch experiment stations, many western Kansas farmers are constructing pit silos to care for the heavy crops of corn and sorghums.

Due to the soaking rains in western Kansas, that portion of the state has produced the greatest yield of sorghums and other crops in history. The pit silo can be made an important factor in the prevention of waste.

The feed should be preserved at this time to guard against "lean" years and a consequent shortage of forage, according to Superintendent Thompson.

The pit, or underground, silo is not expensive, and is easily constructed, requiring little outside help or skill. No expensive forms are needed.

The silos do not blow down and they are fire-proof—which are two factors in their favor.

Feed is kept clean and free from rodents. It is kept in good condition longer than in the ordinary silo. The silage fed in winter helps cattle to relish the buffalo grass and other roughage.

The improvements in this building include also lockers for several hundred students in the basement. The concrete floors have been painted.

A number of changes have been made in the chemistry annex, including enlargement of the office. Additional tables have been purchased.

In Anderson hall the girls' cloak room has been overhauled, and numerous repairs made.

New concrete walks on the campus are appreciated by both students and faculty members. Cement steps south of Nichols gymnasium and at the head of Sixteenth street make a decided improvement.

Metal sign plates bearing the names of the respective college buildings have been put in conspicuous places by the engineering division. This is an improvement that will be appreciated not only by visitors but by freshmen. In the past the latter have had many a frenzied search between classes for buildings.

The entire work on the signs was done by students in engineering.

in gold, silver, and bronze medals and honorable mention."

The college experiment station exhibit is attracting a great deal of attention. This exhibit will be returned at the conclusion of the exposition and placed in the agricultural hall at the college where students may have the opportunity to study and inspect it.

MANY IMPROVEMENTS IN BUILDINGS AT COLLEGE

Interiors Have Been Repaired and Furnished up—Metal Signs Now Guide Wandering Freshman

Kansas State Agricultural college buildings have undergone a general overhauling, and extensive improvements have been made on the grounds. The expenditure of \$13,000 was allowed for the work. Not in years have the improvements undertaken been so pretentious. But this is not all; an aggregate of \$30,000 is available for improvements covering the entire year.

Changes and repairs in Kedzie hall preparatory to the opening of the cafeteria necessitated the expenditure of \$2,500 in round numbers. Another \$2,500 was allowed for cafeteria equipment. The printing department was moved from the first floor to the basement to make room for the cafeteria. An additional office was constructed on the second floor for the industrial journalism department.

Repairs costing \$1,500 have been made in the gymnasium building. They include an inside stairway leading to the women's "gym."

Additional stacks have been installed in the library and the wood-work has been painted.

A new floor has been provided in the domestic science and art hall for social purposes.

Miss Elizabeth Stubblefield of Wichita was employed to work out a decorative scheme for the entire domestic science and art building. A part of the general plan has been carried out. The main corridor has been refinished—the woodwork in ivory white and the walls in warm gray. Partitions in the offices of Mary P. Van Zile, dean, have been changed in order to meet all office requirements.

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AGGIE TEACHERS TO DRAW LARGE SUM IN SALARIES

Members of Class of 1915 Helped to Jobs by Education Department

Forty-one thousand dollars in salaries will be drawn this year by 1915 graduates of the agricultural college who were helped to secure positions as teachers by the department of education. This does not include the large number of graduates who secure their positions without the assistance of the department. The largest number of these positions were secured for graduates last June.

A large proportion of the graduates of the agricultural college do not enter teaching fields. Of the 250 graduates of the past year, fewer than 50 are engaged in teaching.

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Number 4

MEETING WAS A SUCCESS

INTERNATIONAL WHEAT CONGRESS AT WICHITA ATTRACTED ATTENTION

Dr. Henry J. Waters, President, Gave an Instructive Address—"Governor's Day" Was Feature of the Congress

The International Wheat congress held this week in Wichita attracted the attention of grain producers in many sections of this country and Canada. New ideas advanced by experts in wheat from the Kansas State Agricultural college and elsewhere, are expected to be productive of results.

Dr. Henry J. Waters, president of the Kansas State Agricultural college and president of the congress, presided. In responding to an address of welcome by Mayor Bentley of Wichita he made the prediction that Wichita will some day be the flour manufacturing center of the United States.

Doctor Waters told his hearers that not a bale of alfalfa or a bushel of grain should go out of the state except in manufactured form—in other words, that everything grown in Kansas should be manufactured in this state.

He pointed out that the industrial interests of the country procure but one-half of 1 per cent of raw material used from the sea, 3 per cent from the forests, 11 per cent from the mines, and 81 per cent from the farm.

KANSAS MADE PRODUCTS

Doctor Waters said that when people would realize that ten out of the twelve chief manufacturing industries of the country use raw material produced from the farm they would more clearly see the importance of the farmer.

The merchants and bankers and transportation companies ought also to realize how dependent they are upon the agriculturist. He said that while 55 per cent of the people of the world lived upon rice, wheat was the product upon which the greatest people in the world—the people who do things—lived.

Doctor Waters made a strong plea for closer co-operation between the town and the farm and believed that as the farmer produced more of the wealth of the world he should have closer attention from the men who have money. He intimated that for their own good banks should be more generous with farmers, for the more money that would find its way back to the original producer of wealth the greater would be the increase of wealth.

A feature of the congress was "Governor's Day"—Tuesday. Governor Arthur Capper and his executive staff were tendered a complimentary breakfast at the Wichita club. Governor Capper delivered an address Tuesday afternoon in which he declared there was a danger that Kansas would go "stale."

"We are doing so well in Kansas, in comparison with the rest of the world that I fear the danger of going slack, a danger always attendant on prosperity," he said.

The wheat exhibit attracted much attention, and the Kansas State Agricultural college came in for a large share of the praise.

PAPER BY PROF. L. E. CALL

An instructive number on the program was the talk of Prof. L. E. Call of the Kansas State Agricultural college on "Wheat Growing in Kansas." Mr. Call dwelt almost exclusively upon the preparation of the ground in relation to the conservation of moisture and the liberation of plant food from the soil. He related the results of five years' experimentation in plowing and seeding at the college farm. He stated that the seven-inch deep plowing in July was what brought the best results.

On the rotation of crops, Mr. Call gave some very interesting facts which clearly showed what precautions should be taken upon land where wheat sowing was continuous. He spoke decidedly in favor of rotation and produced a chart covering the yields of several years at the experiment stations which proved very decisively that where crops were rotated wheat made from three to five more bushels to the acre.

DEAN JARDINE ON WHEAT

Dean W. M. Jardine, director of the Agricultural Experiment station, read a paper before the congress on "Improving the Yield and Quality of Kansas Winter Wheats." Dean Jardine told of how through careful selection in the last five years by the college experts a new variety of wheat has been produced that will outyield the common wheat—Turkey—from three to five bushels to the acre.

"Practically the entire world has been searched by the United States department of agriculture and the Kansas State Experiment station during the past twenty years for new and better varieties of wheat to grow in this and other states," said he.

"Practically every variety known to man has been grown in the grain breeding plots on the college farm at Manhattan during this time. As a result of this search for better varieties the hard red winter wheats, of which Turkey, Kharkof, and Crimean are examples, have proved to be most valuable for all sections of Kansas west of the extreme eastern tier of counties in the state or on extremely low or heavy soils in the eastern fourth of the state.

"After the hard red winter wheats had become thoroughly established as the best to grow, the next step that was taken to still further increase their yields was through the selection of the best individual types from the varieties grown from seed introduced from Russia, the home of these hard red winter wheats, and from which country the first seed was obtained.

"During the past five years several of these pedigreed selections have been placed in the hands of reliable farmers and grown out over the state, and one strain in particular has proved to be much superior to those generally grown over the state. This strain, Pedigree No. 762, has, during the past four years, outyielded the common Kansas grown wheat each year in from forty to fifty different areas of the state, something like four bushels to the acre."

HESSIAN FLY A MENACE

George A. Dean, head of the department of entomology in the Kansas State Agricultural college, warned the farmers to take precautionary measures to avoid destruction of wheat by the Hessian fly. He went into detail relative to the methods of control.

STATE COLLEGIAN BREAKS OLD CIRCULATION RECORD

Student Newspaper Is Free from Debt—Has Good Staff of Reporters

The Kansas State Collegian has announced that for the first time in five years the student paper is free from debt and has a circulation which passes the previous high mark by 300. There are 18 reporters. The paper has a news room in Kedzie hall. Many students taking journalism are reporting for the Collegian.

BUSHNELL GETS LEAVE FOR SPECIAL STUDY IN HARVARD

Bacteriology Professor Plans to Take Doctor's Degree in East

Leland D. Bushnell, professor of bacteriology in the agricultural college, has been granted a year's leave of absence by the board of administration, so that he may take advanced work in Harvard university toward a doctor's degree. Professor Bushnell has been in the college since 1909.

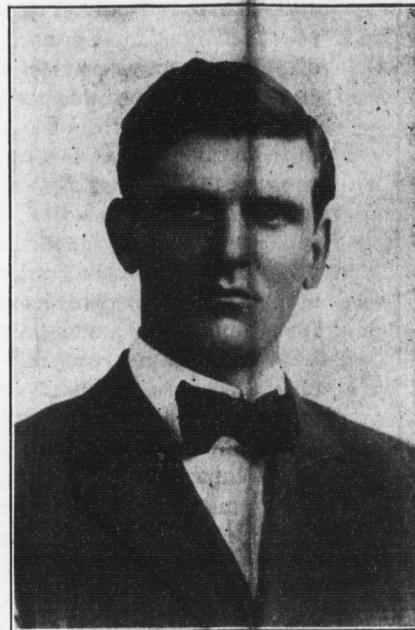
STOCK WINS BIG PRIZES

COLLEGE BREAKS ALL RECORDS AT AMERICAN ROYAL SHOW

Three Firsts Are Awarded on Herds Bred and Fitted at Institution—Competition Is Strong—Baron Montague Gets Place at Exposition

The most extensive winnings ever made by any institution at the American Royal Stock show were secured by the Kansas State Agricultural college this year.

The college won three firsts out of a possible five on herds all bred and fitted at the institution. Two championships were also given on cattle



W. A. COCHEL, PROFESSOR OF ANIMAL HUSBANDRY

bred here. A total of twelve firsts, nine seconds, four thirds, and two championships constituted the awards made to the college.

Competition was with some of the strongest institutions in the middle west, including Iowa, Wisconsin, and Missouri.

Here is the classified list of the college's winnings:

WINNINGS ON ALL BREEDS

Hereford—First and second in 2-year-olds; first in senior yearlings; second in junior yearlings; second in senior calves; first in junior calves; first and third on herds.

Aberdeen Angus—Second in yearlings, calves, and herds.

Galloway—First in 2-year-olds; second in yearlings; second in calves.

Shorthorn—First and third in 2-year-olds; third and fourth in yearlings; first and second in calves; first and third in herds; championship on 2-year-old steer, College Dale.

Grade Hereford—First in 2-year-olds; first in yearlings; first in calves; first in herds; championship on 2-year-old steer, Logan.

Ward has also been received by the animal husbandry department that the 3-year-old Clydesdale stallion, Baron Montague, bred at the college, won fourth in the open competition at the Panama-Pacific International exposition at San Francisco.

THREE YOUNG WOMEN ARE HOLDERS OF SCHOLARSHIP

Crawford Award Goes to Vilona Cutler, Zorada Titus, and Ruth Simpson

Miss Vilona Cutler of Anthony, Miss Zorada Titus of Wakarusa, and Miss Ruth Simpson of Paragould, Ark., are the winners of the scholarship offered by Leslie M. Crawford of Topeka in the Kansas State Agricultural college. It was originally intended that this scholarship, which has a value of \$300 a year, be given to one person, but of the 15 or 20 applicants these three stood out with so much prominence that the committee decided to divide the award.

The award of this scholarship was made by a committee consisting of

President H. J. Waters, Dean J. T. Willard, Dean W. M. Jardine, Mrs. Mary Pierce Van Zile, and Dr. R. K. Nabours. The award of the scholarship for the first time was, according to Mr. Crawford's plan, to young women interested in home economics. Upon the graduation of these young women the next award will be made to young men interested in agriculture.

GROWING SEASON OF 1915 WAS EXCEPTIONALLY COOL

April and September Were the Only Months with the Temperature Above Normal

The 1915 growing season including the months of April, May, June, July, August, and September, was exceptionally cool, according to J. O. Hamilton, professor of physics in the Kansas State Agricultural college, and official weather observer. The average temperature for the period in question in the last fifty-seven years has been 70.4 degrees; the mean temperature this year was 67.1 degrees.

The months of May, June, July, and August were abnormally cool, while the temperature in April and September was above the 57-year normal.

STUDENTS' WORK WILL HELP KANSAS FARMERS

Original Investigations Are Being Made in Farm Mechanics Department Under Direction of F. A. Wirt

Investigative work is being done by students of the department of farm mechanics in the Kansas State Agricultural college, which when completed, will be of practical value to the Kansas farmers. One student will write an exhaustive report on the kinds and sizes of machines necessary in a farm power plant. Another will make a study of the cost of filling silos. This is the first time that a course in individual experimental work has been offered in this department.

George E. Denman, a senior in the division of agriculture, who is making a study of a complete farm power plant, will give in his report not only a list of machines of all sizes and kinds used in power plants, but will offer suggestions relative to the best kinds of power plants adapted to conditions in this part of the country. His report will give other information, such as the original cost of machines and buildings.

Some of the machines that can be used are feed mills, corn shellers, fanmills, pumps, churning, cream separators, and circular saws. A gas engine will furnish the power.

F. E. Hayes, a graduate student in agriculture, is making an exhaustive study of the cost of filling silos. Mr. Hayes was graduated in civil engineering at Lehigh university several years ago and has spent much of his time since then in South America.

Items of cost will include fuel and water for the engine, manual labor, interest and depreciation on money invested in silage cutters, engines, and silos. The effect of the method of feeding, the length of cut, the height of silo, and length of haul will be considered.

The animal husbandry department and the dairy department are now filling several silos, using cane, kafir, and corn.

The new course is called Farm Mechanics V. It is the idea of F. A. Wirt, in charge of the department. Credit is given for from three to five hours, depending upon the problem assigned and the work done. Assignment is by special arrangement. The reports will be filed so the data will be available when necessary in answering the large number of letters received from farmers. Much of the information obtained in this course may be published in bulletin form.

ALL WANT TO IRRIGATE

PLANS OF FARMERS ARE UNCHANGED BY UNUSUAL RAINFALL

Congress at Garden City Attracts Western Kansas Pioneers—College Men on Program—Government Expert Presents Results of Corn Growing Tests

Nearly 100 irrigation farmers from western Kansas and eastern Colorado, including some of the pioneers of the great plains region, attended the fourth annual meeting of the Kansas State Irrigation congress at Garden City Wednesday and Thursday. In spite of the comparatively heavy rainfall of the past season, great interest was manifested in irrigation problems, farmers in the shallow water districts being generally convinced of the necessity of irrigation under average conditions.

The agricultural college took a prominent part in the program. A. A. Potter, dean of engineering, and Roy A. Seaton, professor of applied mechanics, made addresses which are treated elsewhere in THE INDUSTRIALIST. Chester Carter, an alumnus of the institution, discussed the development of shallow water pumping plants, presenting statistics to show the value of these to the typical farmer. M. C. Sewall, superintendent of the Garden City Branch Experiment station, discussed the results of irrigation experiments conducted there.

DIESEM ON KANSAS LAND

Government experts and pioneer irrigators brought out many interesting facts. Two features of the meeting were addresses by I. L. Diesem of Garden City, president of the congress and one of the earliest irrigators in Kansas, and his son, H. C. Diesem of Denver, irrigation engineer for the United States government.

The elder Mr. Diesem made a comparison between irrigated land in southwestern Kansas and land in Illinois or Iowa. In the two latter states, he said, a quarter section would cost approximately \$24,000, while the same amount of land in southwest Kansas could be purchased and furnished with the necessary facilities for well irrigation at a cost of \$14,000.

"This farm is capable under these conditions," said Mr. Diesem, "to produce just as much income from its agricultural products as the Iowa or Illinois farm."

That from 35 to 60 bushels of corn an acre have been gained in a single season by pump irrigation, was the conclusion presented to the congress by H. C. Diesem from data gathered by him in investigations in the Platte valley, under conditions which he said were similar to those of western Kansas.

IRRIGATION MAKES BIG GAIN

Mr. Diesem's investigations showed 15 bushels of corn to the acre on unirrigated land and from 50 to 75 bushels on irrigated land nearby. The acre cost, exclusive of labor and depreciation, ranged from \$1.10 to \$2.40 for two irrigations a season. The cost per acre inch varied, with different irrigators and different pumps, from 10 to 30 cents.

Watch the belt slip, keep the plant clean, avoid waste. These three points were urged by George S. Knapp, formerly of the college, now a government irrigation engineer at Garden City, as means for reducing the operating costs of pumping. Mr. Knapp presented statistics showing enormous savings through efficiency methods in the operation of the plant at Garden City.

Visits to the factory of the Garden City Sugar company and to a number of large irrigation plants near the city were among the attractive features of the meeting.

The men in the college foundry are turning out 1,500 watch fobs for the Manhattan Commercial club.

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SATURDAY, OCTOBER 16, 1915

A Boston man writes about preparing boys and girls for life as though he had made a discovery. But if he would investigate education he would find his idea by no means new.

Was it not the United States department of agriculture which, a few years ago, started the war on the term, "kafir corn"? The odious expression now appears in the latest report in the department bureau of crop estimates. How are the mighty fallen!

A New York criminal case has been continued because it was impossible to find a policeman who could recognize the odor of whisky. There are several places from which well qualified officers may be secured for the purpose. But perhaps the Gotham cops were merely reticent.

Young John D. Rockefeller is quoted as saying that it's "marvelous and gratifying" that Billy Sunday should do as well as he has done, "instead of going straight to hell." It would not be surprising if William should return John's compliment with interest. Let's wait and see before commenting.

AGRICULTURE AND HALL OF FAME

Still another profession, play acting, has been added to those represented in the Hall of Fame for Great Americans. The latest election places the name of Charlotte Cushman, who in the middle of the nineteenth century was the foremost American tragedienne, in the ranks of the immortals. Whether or not one feels that she was the most distinguished member of her profession, one is gratified at the recognition of the art that she represented. The Hall of Fame cannot be too all-embracing in its acknowledgment of significant factors in the life of the nation.

So far, however, agriculture is a profession not directly represented in the Hall of Fame. Several men, such as Eli Whitney, Asa Gray, and Louis Agassiz, to whom tablets there have been erected, have done work of great importance to agriculture, but their interests were not fundamentally agricultural.

Upon the death of Luther Burbank and the lapse of the necessary 10 years before an election can be made, his name will probably be added to the list. In the meantime—has there not lived some distinguished leader in agricultural progress who already possesses the requisite qualifications for a place in this company of great Americans? Perhaps Cyrus Hall McCormick; perhaps Justin Smith Morrill. Certainly agriculture deserves representation among the factors that have made the United States.

MATERIAL BLESSINGS OF PEACE

Crop conditions in the United States at the present time are nearly 7 per cent above the 10-year average, according to the latest reports from the federal department of agriculture. It is to be observed that for the most part the crops of greatest importance show the greatest increase over the average acre yield. Spring wheat shows an increase of 34 per cent; oats, 27 per cent; barley, 27 per cent;

kafir, 12 per cent; sorghum, 5 per cent; corn, 2 per cent; apples, 17 per cent. Tobacco, potatoes, rice, and cotton are the only crops of great importance which are not above the average. Of these tobacco and potatoes are each less than 1 per cent below average. The decrease in production of cotton will not be disadvantageous in view of the present and probable future market conditions governing this crop.

While not significant so far as any causal relation is concerned, the high acre yield in this country is of special interest in this year of war, when acre yields in most of the European countries have dropped far below normal. The conditions in this country afford an excellent picture of the material blessings of peace.

PROTECTING THE DEFENDANT

The release of a man from the federal penitentiary last week after five years' imprisonment for a crime which it is evident from the indictment he could not have committed, calls attention anew to the importance of protecting the rights of a defendant, whether he can employ expensive counsel or not. Theoretically, the law protects the defendant's rights by guaranteeing him counsel, but this is merely a parallel the medieval procedure in which appeared "advocatus dei" and "advocatus diaboli," "the advocate of God" and "the advocate of the devil."

Just what is the adequate remedy for this, is not clear. A good deal could be done, however, by a state's attorney who realized that he was in office for the purpose of serving the state and not for the purpose of convicting anybody he could. Such a man would look into each case thoroughly and if it were evident a defendant was not guilty he would decline to prosecute. This would at least give the defendant lacking friends and money the same show that the wealthy and popular defendant gets.

TO PRODUCE BETTER EGGS

The progressive ladies of the Golden district in Wood county, Texas, have organized themselves into a poultry association.

Their plans are to coöperate in building up farm flocks of two or three purebred varieties of chickens to sufficient size for each farm to make the sum total great enough to attract the trade; also to standardize the product and hold up the standard both as to chickens and eggs, shipping uniform lots of each.

After the association grows larger and pervades more territory they propose to district the association and let a sufficient number of members in each small district keep breeding fowls to supply the others with fertile eggs for hatching and all the rest discard their male birds so that all the shipments to market of eggs for consumption can be infertile eggs. The ones producing breeding eggs will get enough above the market price of eggs to pay for the extra expense of keeping high class stock and keeping them in high class condition.

They will guarantee their product and hope to make a reputation that will assure a compensatory market.

They are just beginning but hope to use such business methods in both production and selling as will assure a very large measure of success.—T. H. Layman in Farm and Ranch.

GRASSHOPPERS IN PALESTINE

Although both the allies and their opponents have solemnly covenanted with each other to respect the sacred rights of Palestine, Judea has troubles of her own, scarcely less than the troubles of Belgium, Poland, and northern France.

Last March, the locusts, or, as we would say, grasshoppers, began to appear in the wilderness of Judea, and in a few days spread over the country. They did comparatively little damage, but laid their eggs, which hatched out in May, and the country is in a condition much like that described in the second chapter of Joel. (If you want a description of the utter desolation resulting from an invasion of locusts, read that chapter next Sabbath. Note

that it is called "the day of Jehovah," a day "great and very terrible; and who can abide it?"

The commander of the army appointed a commission to fight the locusts, under the direction of the governor of Jerusalem. They levied a fine on every male in the towns who did not gather 44 pounds of locust eggs. In the villages, one-half the inhabitants were compelled to go out each alternate day to dig for these eggs. But this was not enough. By the end of May, the eggs began to hatch out, and long lines of men, women, and children were formed along the roads, to try to drive them

worrying about farm credits or where he can raise a mortgage at a low rate of interest, because he has cash on hand to use when needed. If he hears of some live stock in the neighborhood that is to be sold below their actual value, he has the cash with which to buy them the grain and forage to feed, with the result that he realizes a handsome profit when the stock is ready to market.—Western Farm Life.

MORE STUDY—LESS LABOR

More mental work and less physical labor would be a good motto for next year. As the mental faculties are trained, labor becomes easier and the

HEARTSEASE

R. L. Gales

Swallows faring over-sea
Have the castle turrets won,
The white cat, Chatellenie,
Lies and blinks in the hot sun.

Without wind falls many a leaf
From the poplars' yellowing green,
The magpie, a busy thief,
Chatters like a Visitandine.

Mother Margot croons and sings
To the children round her knees
Sweet old else forgotten things
From the country of Heartsease.

SUNFLOWERS

THE STUFF'S OFF

We don't believe the British labor unions will stir up much more trouble. Mrs. Pankhurst is after them.

A POLITE SUGGESTION OF MRS. GALT'S WEALTH

President Wilson came to Philadelphia today from New York with his finance.—Newton Kansan-Republican.

PAGE THE ENGLISH PROF.

A reporter on the University Daily Kansan tells about dramatizing "Robert Burn's poem, 'Peter Pan.'" This young cub will land a job on the Cosmopolitan one of these days.

Ben Smith, who runs the bank in Whiffletree and comes to the big town every two years to buy a new suit, says he's looking for a cashier who can also keep an eye on the pigs in the pasture across the street from the bank.

AN AUTUMN IDYL

In the fair sweet days of the autumn time,
When all the world is a southern clime
Where the birds are singing amidst
the lime,
I hear a voice unapproached by rime,
"My dear, I must have a new hat."

PIFFLE YOU MAY HAVE MISSED

There were storms of handclapping that sounded like hail on the pavements in the heat of summer, now swelling until all other sound was outdone, then waning until there were just a few hailstones falling and then increasing again into a tumult.—Cedar Rapids (Iowa) Republican.

SHE'LL LOVE THE BEACON FOR THE LAST SENTENCE

It is not generally known here that the Kate Adams who has solved the vice problem in Chicago is a Kansas product. She is the daughter of the late Dan Adams of Topeka and began her public and very useful career in Chicago as a stenographer at police headquarters. She was one of the handsomest girls in Kansas 20 years ago and was well connected with the best families of the state capital.—Wichita Beacon.

NEWSPAPER HONESTY

In his first sermon of the academic year, addressed especially to the freshman class, Dr. Arthur T. Hadley, president of Yale, makes a strong plea for intellectual honesty, a plea urgently demanded by the times we live in. To avoid acquiring the habit of quibbling and indirection, Dr. Hadley gives this advice:

"In the first place we must acquire the habit of looking into evidence. We must stop buying the newspaper that tells what we wish was true, and buy the one that tries to tell what really is true."

Better counsel was never given to young men. Errors creep into every newspaper. Daily publication precludes analytical deliberateness in looking into evidence. Yet is the character of the newspaper that tries to tell the truth and nothing but the truth easily distinguishable from that which makes no sincere effort to show both sides of the shield. Literary keenness is not needed. Any reader can ask himself whether there is intellectual honesty in a newspaper, whether the side that is opposed on any issue is as fairly presented as its friends would present it. That is the real test of newspaper honesty.—Brooklyn Eagle.

Use Waste Material

H. J. Bower

The ideal practice for every farmer is to incorporate organic matter into the soil by turning under all waste refuse and occasionally green and stable manures. This must be practiced continually and gradually, in connection with deep plowing and a systematic rotation of crops which includes the legumes and the grasses. The legumes accumulate the nitrogen from the air, and store it deeply in the soil in their tubercles and root growth. The long, ramifying roots of the legumes also aid considerably in loosening up and deepening the soil. The dense root systems of the grasses tend to divide the soil both deeply and finely. Great progress towards the goal of soil conservation and a permanent agriculture will have been made when these practices for maintaining humus become universal on Kansas farms.

The average crop yields of Kansas are becoming low chiefly because the humus content of the soil is largely reduced by continuous cropping and cultivation. Profitable crop growing is largely dependent upon a high per cent of active humus, or, in other words, a high per cent of decaying organic matter, such as roots, straw, leaves, and manure in the soil. Humus consists of this vegetable and animal matter which has only partially decayed. In this condition it has lost its original structure, and in most instances has been changed over into a black, paint-like substance that coats the soil grains and gives the black color to the soil.

into the tin lined boxes that had been sunk into the ground.

In spite of all this, few crops or orchards escaped, although they tried to protect the trees by pieces of tin or zinc tied around them like an inverted funnel. The lowlands have been rendered practically a desert, except along the coast. In the mountain districts, the olive orchards and vineyards have suffered greatly. As olive oil and grapes form a large part of the food of the peasants and poorer classes, they suffer almost as much as the war-ravaged sections of Europe.—Wallace's Farmer.

GET THE SELLING HABIT

Farming is a business as well as a science. The business of the farmer is to produce things and sell them for profit. This is also the business of all the manufacturing plants throughout the world. A farmer is not only a business man, but also a manufacturer, and might be considered a merchant, since his income is dependent on the products that he sells for profit. If nothing is sold from the farm, naturally there will be no income, hence the marketing end of the game is fully as important, and in many cases even more so, than the producing end.

It has been my observation for many years that the progressive farmer, the one that forges ahead—has no mortgages, but enjoys a good bank account—is the one who has always something to sell. He manages to have a load of cattle, hogs, grain, sheep, some wool or potatoes, or perhaps some fruit or dairy products to market every month, or even better, something every week in the year which brings in a constant income. Of course, this kind of farmer is familiar with the marketing game and knows where and when to dispose of his products at the best time when they will return the largest profit.

With the available cash he is constantly making improvements both on the farm and in the house, and is materially increasing the value of his place. This kind of farmer is not ing.

laborer more efficient as a producer. It would be profitable for every farm manager to reduce the hours of physical labor, but at the same time increase the number of hours for study. This will mean greater efficiency and hence larger profits.—Farm and Ranch.

A QUARTER CENTURY AGO

Items from the Industrialist of October 18, 1890

George F. Thompson, ex-superintendent of printing at this college, is a member of the Republican congressional committee of the Fifth district.

S. Sisson, for several years herdsman on the college farm, returns this month to Toronto (Canada) Veterinary college to complete his course.

Applications for aid in farmers' institutes are being received; and the committee recommend that the desired assistance be given in institutes to be held in Lawrence, McPherson, and Garrison.

Lieutenant Albert Todd, '72, professor of military science and tactics at his alma mater from 1881 to 1884, has again been transferred—this time from Fort Hamilton, N. Y., to Fort Riley, Kan.

Regent Wheeler addressed the students in chapel Wednesday morning with good words for Kansas, and hearty exhortations to make the most of such opportunities as Kansas gives to her sons and daughters.

May Varney, a graduate of Adrian college, Michigan, who took post-graduate work in botany and drawing at this college last year, is employed in the division of vegetable pathology in the department of agriculture at Washington, D. C.

The regents and the faculty and their wives took tea on Tuesday evening with Mrs. Kedzie and her cooking class. Supper was prepared and served by the young ladies, under direction of their instructor, and the writer heard many good words spoken for both the preparation and the service.

AMONG THE ALUMNI

L. W. Fielding, '05, is in the employ of the Valley Pipe Line company at Ingomar, Cal.

Miss Ruth Arbuthnot, '15, has accepted a position as teacher of domestic science in the Germania, Iowa, high school.

H. A. Ireland, '07, of Caldwell, Idaho, sends his one dollar assessment and sites Matthew 19:5 as the reason he did not send two dollars.

Miss Myrtle Blythe, '15, is instructor in home economics in the Salt River (Ariz.) mission, a Presbyterian school supported by a New York congregation.

Frederick W. Wilson, '05, writes from Reno, Nevada, that he is enjoying his new position in the College of Agriculture of the University of Nevada.

"Red" Agnew, captain of the 1914 football team, now Doctor Agnew of Smith Center, is coaching the Smith Center high school team. He umpired the game between Smith Center and Belleville, October 1.

S. W. Callen, '12, who is now living in Boulder, Col., writes to express his pleasure at the existence of a chapter of Sigma Delta Chi, the honorary journalistic fraternity, in the college. Mr. Callen is a member of the fraternity.

Miss Mamie Hassebroek, '04, is instructor in home economics in the State College of Washington at Pullman. She is much pleased with her work. The college enrollment there, she writes, increased 20 per cent this year.

R. K. Bonnett, '13, is taking advanced work in agronomy in the University of Wisconsin. He is pursuing a minor in plant cytology and physiology. Mrs. Bonnett, formerly Miss Martha Tunstall, is taking a literary course in the college of liberal arts.

Prof. Fred C. Sears, '92, writes that Dean F. A. Waugh, '91, is driving a new car and that the faculty and students of the Massachusetts Agricultural college dodge behind trees when they see him coming. Both Mr. Sears and Mr. Waugh are professors in the college there.

C. W. Shaver, '15, was a visitor at the college Wednesday. He is located at Clay Center. He and his partner, Carl Johnson, '14, report plenty of work as architects. They are building three residences and a Methodist church in Clay Center and have completed specifications for several buildings in other towns.

BIRTHS

Born, to Mr. and Mrs. Clarence Thomas Gibbon, '08, at Englewood, S. D., September 29 a son, Clarence Irwin.

Born, to Mr. and Mrs. P. T. Coe, Phoenix, Ariz., on August 31, a son. Mrs. Coe was Miss Dora Jean Ellis, '12.

GRAHAM EDITS FARM JOURNAL

I. D. Graham, who was secretary of the college from 1884 to 1898, has been elected editor of the *Rural Spirit*, a weekly journal for farmers and stockmen of the northwest. It is published in Portland, Ore. After leaving the college, Mr. Graham was for some years on the staff of the *Kansas Farmer*. Recently he was assistant chief of the department of live stock in the Panama-Pacific exposition.

EASTERN ALUMNI PARTY

The annual banquet of two or three hours' duration affords so little opportunity for the members to become acquainted that at the banquet of the eastern alumni of Kansas State Agricultural college in April of this year a committee was appointed, with Prof. A. L. Burns as chairman, to arrange an outing.

Through the kind invitation of Miss

Henrietta Hofer and Mrs. Christine (Hofer) Johnson, the alumni gathered September 11 at the cottage of Mrs. Hofer at Manasquan, N.J. The pleasant sight to greet city-tired eyes was the cottage decorated with pennants and sunflowers, real Kansas sunflowers raised by Mrs. Hofer at her summer home in Brielle.

The ocean was so much and so often enjoyed that some of the members of the house party could hardly be coaxed away for their meals. Two more perfect days could hardly have been chosen and with the water ideal many hours were spent in the waves.

A canoeing trip up the Manasquan river occupied the morning of one day and was highly amusing on account of a race in which some of the party engaged.

Those in the party were Mr. J. B. Dorman, '96, and Mrs. Dorman, Mr. A. L. Burns and Mrs. Ruth (Gilbert) Burns, '14, Mr. L. A. Ramsey, '06, and Mrs. Ruth (Neiman) Ramsey, '06, Mr. Johnson and Mrs. Christine (Hofer) Johnson, '02, Mrs. Hofer, Miss Henrietta Hofer, '02, Miss Minnie Copeland, '98, Miss Elinor Johnson, Mr. W. E. Mathewson, '01, and Mr. Donald Ross, '07.

PAPER TO FORMER EDITORS

Former editors of the student newspaper, now the *Kansas State Collegian*, will receive the publication free, according to announcement made by T. F. Blackburn of Anthony, the present editor.

The Students' Herald was an offshoot from *THE INDUSTRIALIST*. It was founded on January 8, 1896, by J. W. Holland, '96, and others. The paper was published as a newspaper for two or three years and then printed in magazine form up till 1907 when Oley W. Weaver, '11, created the present newspaper form. The paper successively bore the names of Students' Herald, Kansas Aggie, and Kansas State Collegian.

The former editors, with their classes and the dates of election, are as follows: J. W. Holland, '96, January 8, 1896; F. E. Cheadle, '97, September 23, 1896; L. G. Hepworth, '97, September 20, 1897; H. M. Thomas, '98, September 8, 1898; J. G. Harvey, '99, May 11, 1898; W. F. Lawry, '00, May 11, 1899; Z. L. Bliss, '00, October 26, 1899; Geo. Martinson, '01, May 17, 1900; F. W. Haselwood, '01, October 18, 1900; E. N. Rodell, '02, May 16, 1901; A. N. H. Beeman, '05, May 22, 1903; Ray A. Carle, '05, May 19, 1904; F. A. Kiene, '06, April 6, 1905; C. E. Whipple, '07, September 20, 1906; J. R. Coxen, '08, October, 1906; O. W. Weaver, '11, January 17, 1907; Clifton J. Stratton, '11, October 12, 1907; Albert G. Kittell, '11, January 11, 1908; A. Endicott, '12, January 6, 1909; Oley W. Weaver, '11, September 19, 1910; A. Endicott, '12, September 1, 1911; C. G. Wellington, '13, September 21, 1912; W. A. Sumner, '14, September 13, 1913; Harry M. Zeigler, January 8, 1914; Ralph H. Heppe, '17, September 14, 1914.

BILLINGS MAKES RECORD

J. A. Billings, '14, of Grantville, who has been playing association ball, broke into major league ball with a real record this season. In spite of a broken leg at the beginning of the season, he hit .290 and stole 20 bases before the season's close. He played every place on the association team though regularly catcher. While he had a choice of three jobs at the close of the season, he returned to his stock farm near Topeka for the winter.

COLLEGE BUYS CALVES FOR COMING WINTER EXPERIMENTS

Tests Will Be Carried on Here and at Hays Branch Station

The animal husbandry department in the Kansas State Agricultural college has purchased 200 head of grade Hereford calves from Pool Brothers of Manhattan. They will be delivered between October 15 and November 1.

One hundred heifers will be shipped to the Hays experiment station where they will be developed for breeding purposes. The same number of heifers will be fed in the experimental feeding tests at Manhattan.

HONORS OLD AGGIE MEN

COMMITTEE VOTES COLLEGE LETTER TO ATHLETES OF FORMER DAYS

Presentation Will Be Made at Rally Friday Evening Preceding Home-Coming Game—“K” Will Be Mailed if You Can’t Be Here

The felt "K," standing for prominence in intercollegiate athletics, will be awarded to more than 150 old Kansas Aggie men at the big rally in the college auditorium next Friday evening, the day before the game with the University of Kansas. An honorary ticket, admitting the holder to all events on the local field, will also be given to each of these men.

After a search through hundreds of old records, Prof. J. O. Hamilton and other members of the committee have made up a list containing two groups of names. The first is of those who helped introduce intercollegiate athletics and were members of teams before 1897. A second group comprises men who won honors in various forms of athletics between 1897 and 1906, when the college "K" was not given.

MANY ADDRESSES NOT KNOWN

The addresses of many of the men in the list are unknown to the committee, which plans to mail the honor letters to any of the athletes who are not here Friday night. John R. Bender, coach, will appreciate receiving the addresses of any of those who are mentioned in the list. In case any athlete has been missed in the search for data, Mr. Bender is anxious to secure his name and a brief history of his athletic record.

Here is a list of men who attained athletic prominence prior to 1897: Cavenaugh, Holsinger, Fred Smith, W. E. Smith, C. M. Breese, Conrad, R. J. Brock, W. W. Hutto, J. U. Higginbotham, Grant W. Dewey, Emil Pfuetze, George E. Stoker, E. L. Pond, Byron Pond, M. F. Hulett, D. I. Sandt, J. A. Sheeld, F. A. Dawley, C. A. Johnson, J. J. Johnson.

THESE WERE GRIDIRON HEROES

The list of football heroes from 1897 on follows:

1897—Charles A. Smidley, Winfield E. Jackson, Harry Pratt, H. T. Nielsen, O. B. Jefferson, G. F. Wagner, Fred Russel, Emmet V. Hoffman, Phil Fox, and Louis G. Hill.

1898—J. O. Tulloss, W. G. Tulloss, Claud Masters, Harry C. Sticher, W. G. Pangburn, Farley D. Copping, O. S. True, Ben Mudge, Walter H. Spencer, R. J. Barnett, James H. Fritts.

1899—Harry L. Dorn, Robert W. DeArmond, Harry A. Sidorsky, Charles R. Edwards, Jakon Hansen, Lester Fox Franks, Robert L. Collins, Ray Thompson, E. S. Pangburn, Capt. Charles O. Sparks.

1900—Fred N. Gillis, D. E. Faber, Henry Richards.

1901—N. L. Towne, Claude A. Delamer, D. N. Steinhour, E. T. Haggeman, E. J. Hargrave, Ira Beach.

1902—Perry Cooley, Sol Cunningham, G. L. Voiles, A. C. Wenger.

1903—Carroll Walker, W. I. Wilkinson, B. S. Orr, A. E. Williams, Carl Mallon, Ralph Cooley, Ben Mudge, Al Cassell, J. C. Cunningham.

1904—Ed. Munsell, J. B. Thompson, Joe Montgomery, W. K. Evans, M. Green, C. B. Kirk, Walter Scolz, Rodger Thompson.

1905—W. J. Wilkinson, J. B. Thompson, W. K. Evans, W. T. Scholz, Carl Mallon, A. B. Nystrom, C. E. Whipple, Ralph Cooley, C. B. Kirk, Sol Cunningham, C. F. Blake, Carroll Walker, Joe Montgomery.

OLD AGGIE BALL TWIRLERS

These are the baseball men:

1897—O. E. Noble, Fred Dial, Ernest Poston, George Menke, Ned Green, Paul C. Persol.

1898—Fred Fockele, Emery Adams, James Paddock, Philip Fox, Wagner, Capt.

1899—Willis H. Purdy, Herman Willys Dieball.

1900—Glen Shepard, John Tompkins, E. W. Coldren, Del Akin, Henry Sidorfsky.

1901—C. T. Owsley, Harry Hess.

1902—Will Samuels, Delmar Coffman.

1903—C. C. Cunningham, J. V. Good-

sheller, Louis Bender, J. P. Worsley, W. I. Coldwell.

1904—Leo Phillips, Wm. Putnam, W. A. Korb, W. W. Buckley.

1905—C. C. Cunningham, H. P. Hess, Sol Cunningham, Carl Miller, I. G. Hynes, W. B. Cave, Grover Kahl, R. A. Cassell, Carl Mallon, Harry Porter, Herbert Strong, Al Strong, W. I. Campbell, Arthur Fury.

BASKETBALL MEN ON LIST

Intercollegiate basketball men are as follows:

1903—Frank Bates, James Fields, W. A. Boys.

1905—Frank Ferris, Charles Cain, C. T. Topping, C. H. Carr, C. F. Blake.

The names of the track artists follow:

1904—C. S. Jones, L. A. Ramsey, Milo Hastings.

1905—W. G. Milligan, A. W. Seng, Charles Cain, Hobart Oskins, M. R. Edelblute, W. E. Watkins.

UNDERWOOD INVENTOR OF LIGHT DISK PLOW

Former College Student Improves on His Father’s Machine—How Excess Weight Is Eliminated

J. B. Underwood, a former student in the Kansas State Agricultural college and a son of J. K. Underwood, the inventor of the original disk plow, thinks he has an improvement over his father's machine.

For several years Mr. Underwood, when not engaged in his regular school work, has studied the problem of creating a disk plow which would make unnecessary a large amount of the weight formerly used in traction. The new plow was given its first real test August 13, on the Frank Lund farm near Glen Elder, Kan., the home of the inventor.

Mr. Underwood, who is now principal of the Glen Elder high school, has written to C. M. Brink, dean of the college, relative to his enterprise. He says:

"I wanted to keep a promise, and now I am writing to my old friend, Dean Brink, and sending a postcard photo of the plowing machine which I showed you in 1912, the model of which you kept in your office for a few days when I was a student there. It was not until this summer that I was able to build the full size machine shown in the picture."

"It will plow as deep as 10 inches and at a speed of from two and one-half to three miles per hour, cutting four feet wide. It has a 20 horsepower gasoline engine and the complete machine weighs about 2,500 pounds ready for plowing.

"The chief end sought in the construction of this machine was to apply as much as possible of the power of the engine to the soil directly and thus eliminate the weight that would be required to obtain traction. While there are some minor mechanical difficulties, the machine comes up to expectations and no doubt the main principles will be utilized in plowing machine construction in future years."

"As for myself, I was unable to stay at college as long as I wanted to because of illness at home. I am at present engaged in school work, as I have been during the past two years."

"Days spent at the state agricultural college are always looked back to with pleasure."

THESE ARE THE GIRLS WHO PLEASE THE WEARY PROFS.

Members of Omicron Nu, Honorary Sorority, Lead in Scholarship Race

The scholarship standings of the college fraternities, sororities, and other organizations for the 1915 spring term, recently announced, showed that Omicron Nu, honorary sorority, led with a percentage of 90.1.

Lambda Lambda Theta led the sororities with 85.7 per cent. Beta Theta Pi took the honors among the fraternities with 83.1 per cent. The Eurodelphian literary society took first rank among organizations of that class with a percentage of 85.9.

Omicron Nu also led for the entire year 1915. The average grade for all men was 81.4; for women, 83.7.

AVOID THE FREAK PUMPS

NEW INVENTIONS OFTEN PROVE COSTLY TO KANSAS FARMERS

R. A. Seaton Gives Valuable Advice at Garden City Meeting on Question of "Irrigation Pumping Equipment"

R. A. Seaton, professor of applied mechanics in the Kansas State Agricultural college, warned the farmers and others in attendance at the meeting of the Kansas State Irrigation Congress in Garden City Wednesday afternoon against the purchase and use of freak pumps invented for irrigation purposes. He urged the use of centrifugal pumps for conditions usually found in irrigation practice in Kansas. His subject was "Irrigation Pumping Equipment."

"Extravagant claims are made for some of the freak pumps which are absurd on the face," said Professor Seaton.

"Testimonials from unknown persons should not be considered sufficient evidence of satisfactory operation. Even the devil himself could undoubtedly get all the testimonials he might want as to his good moral character and his reliability."

"The chief items to be kept in mind when selecting irrigation pumping equipment are reliability and economy of operation."

"Reliability is of vital importance, since a failure in the water supply at a critical time during the growing season will cause serious losses. In small pumping plants, the machinery must run with but little attention, and this from attendants who are not accustomed to the operation of complex machinery. The machines should therefore be as simple as possible and should be rugged in construction so they are not likely to get out of order."

ECONOMY IN OPERATION

"Economy of operation includes not only the cost of fuel, or of power, if electric power is purchased, but also interest and depreciation on the investment, and cost of lubricants, repairs, and attendance. Frequently, too little attention is given to economy of operation."

"Under the conditions usually met with in irrigation practice, centrifugal pumps meet the requirements previously mentioned better than other types of pumps. They are simple and rugged in construction, are of low cost, require little attention, and give fair efficiencies. They are therefore widely used for pumping water for irrigation."

"When natural gas cannot be had it will usually be desirable to operate the larger sizes of internal combustion engines on distillate, and the smaller ones on kerosene or gasoline. The heavier fuels are considerably cheaper than the lighter ones, but the reliability of the engine is decreased somewhat and the attendance necessary is increased when distillate or kerosene is used."

GASOLINE IS FOR AIRSHIPS AND AUTOMOBILES—POTTER

COLLEGE DEAN OF ENGINEERING TELLS KANSAS IRRIGATORS TO GET ENGINES THAT WILL BURN HEAVIER OILS—SUGGESTS SOCIETY FOR PREVENTION OF CRUELTY TO MACHINERY

Gasoline in the near future will be used exclusively for automobiles and aeroplanes, according to A. A. Potter, dean of engineering and professor of steam and gas engineering in the Kansas State Agricultural college. The dean spoke at the State Irrigation congress at Garden City.

Professor Potter urged buyers of gasoline engines to procure those which would burn kerosene and the heavier oils. He pointed out the many uses of the oil engine on the Kansas farm.

A "society for the prevention of cruelty to machinery" was advocated by the speaker, who criticized vigorously what he termed "criminal negligence on the part of owners and operators" of pumping plants that proved unsuccessful.

"The type of motor or engine for irrigation purposes," said Dean Potter, "depends upon local conditions. Power for irrigation purposes can be produced by windmills, steam engines, oil engines using gasoline or the heavier petroleum oils, gas engines using natural or artificial gas, and electric motors.

STEAM ENGINES ARE COMPLEX

"The steam engine is very uneconomical in small sizes and is too complicated for the average Kansas irrigation farmer. Windmills have a limited application in Kansas with some successful installations for irrigating fairly small tracts of land. The electric motor offers a very attractive source of power for irrigation farmers who can secure electricity at low rates from nearby transmission systems.

"For a majority of the irrigation projects in Kansas, the oil engine using gasoline or the heavier petroleum fuels has the greatest field of usefulness. Whether in the form of a stationary, a portable, or a traction engine, the oil engine has a great field of application, not only for irrigation, but for the various household and farm purposes. The development of the small traction engine which sells for \$1,000 or less gives the irrigation farmer an opportunity to consider a form of power which can be used not only for driving pumps, but also for preparing the ground and for taking care of the ripe product.

GET ENGINE OF RIGHT SIZE

"In purchasing an oil engine, one must be careful to select one which will be large enough to do the required work, as oil engines, unlike steam engines and electric motors, will stand but little overload. On the other hand, an engine too large for its load will give poor fuel economy.

"The best types of engines will deliver their rated power continuously and will stand an overload of about 15 per cent. The fuel feed, oiling, and ignition systems must be simple and reliable. Either the electric or the hot bulb types of oil engines are satisfactory for stationary use. Good workmanship should be insisted upon. This is usually evident in smooth, noiseless running, and in the appearance of the mechanical details of the engine.

"Considerable misunderstanding exists among farmers and other oil engine users regarding the different grades of oil on the market. The various grades of petroleum distillates or oils are obtained by boiling or refining crude petroleum and condensing the vapors which are driven off at the various temperatures. Gasoline and kerosene are among the lighter distillates of crude petroleum. Refiners grade their products according to the specific gravity, or relative weight of the oil as compared with an equal bulk of water. This is determined by an instrument, called a hydrometer, which is immersed in the oil to be tested. The amount of heat in a pound of crude petroleum and of the various distillates is about the same. Thus

the heat is very nearly the same in a pound of kerosene as it is in a pound of gasoline, a pound of solar oil, or a pound of fuel oil.

DON'T DEPEND ON GASOLINE

"The successful oil engine must not depend upon gasoline for its source of power, but must be capable of burning kerosene and the heavier oils. By refining American petroleum, an average of less than 5 per cent of gasoline is obtained and usually about 50 per cent of kerosene. The time is not far distant when gasoline will be used only



DEAN A. A. POTTER

for automobiles and aeroplanes, and the user of oil engines for irrigation or farming will be forced to select engines which will burn the heavier oils.

"The so-called failures of oil engines and in fact the failures of pumping plants have been the result of criminal negligence on the part of owners and operators. The housing and care received by the engine and pump in many irrigation pumping plants should force the organization of a 'society for the prevention of cruelty to machinery.' No matter how well the engine may be designed and constructed, it will not produce results unless it is placed upon a proper foundation, if of the stationary type, and surrounded and covered by a moisture proof and dust proof building. It must also be handled by a person who not only can stop and start an engine, but has a reasonable degree of proficiency in the use of tools, some ability to repair machinery, and enough common sense to keep the oil and water circulation within the proper limits.

"I wish to emphasize the necessity of buying engines from firms interested not only in selling their products, but also in the record of their outputs in the field. The companies selling the best engines are always open eyed to see that their product does what it is designed to do, and are always ready with a stock of spare and duplicate parts to replace those which are broken or worn out. The user of engines and machinery from a reliable firm has an asset worth while."

THEY LIKE THE PLANS THAT STATE ENGINEER PREPARES

Four Out of Five Bridge Contractors Bid on Gearhart's Specifications

A contract has been awarded by the county commissioners of Barton county for a bridge across the Arkansas river at Ellinwood.

Plans for a bridge were furnished by the office of W. S. Gearhart, state engineer in the division of extension of the Kansas State Agricultural college, as well as by private contract firms. Out of the five contractors bidding, only one bid upon plans other than those prepared by the state engineer's office.

SERUM STOPS BLACKLEG

STOCKMEN CAN NOW COPE SUCCESSFULLY WITH DANGEROUS DISEASE

Kansas Veterinary Experts Are First to Produce Necessary Material in an American Experiment Station—Consistent Results Obtained

Blackleg serum instantly stops an outbreak of blackleg. This is the statement of Dr. O. M. Franklin and Dr. T. P. Haslam of the veterinary department in the Kansas Agricultural Experiment station, the first station in the United States to produce the serum successfully.

Until recently there was no remedy for blackleg when once it attacked an animal, and the only useful procedure was to vaccinate the other animals of the herd. Vaccination in a herd in which animals are dying from blackleg is often unsatisfactory, the local experts point out, as it takes from five to seven days for the vaccine to protect. A number of animals may die during this time, as there are almost always some in the incubation period and at this stage the vaccine will cause the disease to develop more rapidly. Again it is often necessary to vaccinate two or three times before the trouble stops, with a large loss in the meantime.

IS CURATIVE AGENT ALSO

In blackleg serum, however, scientists have a means by which the disease is instantly stopped, and in not a few cases it is possible to cure the animals in the first stages of the disease. After using the serum it is perfectly safe to vaccinate the animals in from three to five days with a very strong dose of vaccine. This will give the animals protection after the effects of the serum expire.

The serum has been used on more than 2,000 animals in herds in which animals were dying at the time from blackleg. Not a single case has occurred after its use, although in some places several animals had died in the twelve hours preceding the use of the serum.

On one farm with two adjacent feed lots in which calves were dying in each, serum was given to those in one lot and no treatment to the others. There was no loss following the use of the serum, but two animals died in the other lot. After use of the serum there was no further trouble. In three herds where too strong a dose of a commercial pellet vaccine had been used with subsequent losses, the serum also proved 100 per cent efficient. In two cases animals showing definite symptoms recovered when given large doses of serum around the point of swelling and intravenously. Practically the same results were obtained in many other cases.

NO BAD RESULTS POSSIBLE

The serum can be used in any sized dose with perfect safety to the finest purebred animal. Only the clear part of the blood is used and this is filtered through a germ-proof Berkfeld filter, and a small amount of chloroform is added as a preservative. The serum therefore cannot produce abscesses. It has been given in doses of 500 cubic centimeters (more than a pint) three days in succession without bad results to good beef calves weighing 325 to 450 pounds. The doses employed as a protective measure have been 12 cubic centimeters for calves weighing up to 250 pounds; 20 cubic centimeters for calves from 250 to 450 pounds; 25 cubic centimeters for calves from 450 to 600 pounds; 25 to 40 cubic centimeters for calves more than 600 pounds.

The serum, when made on a small scale as has been necessary in the experimental work at the college for the last two years, has cost about 1 cent a cubic centimeter, due to economical and efficient methods developed in this laboratory. This averages about 20 cents an animal for ordinary treatment.

In case an animal is already sick the dose is increased from 250 to 500 cubic centimeters depending on the size of the animal and is repeated in doses of 150 to 250 cubic centimeters every six to 12 hours. It has not been necessary to use more than 1,000 cubic centimeters

on an animal. The treatment of animals already sick is not recommended by the college experts unless the very early stages of the disease are observed—which is possible only in rare cases, and unless the animal is very valuable. It is, however, possible and should be borne in mind. With most serums a treatment of sick animals is not nearly so successful as in the case of blackleg serum.

A more detailed account of the experimental work, and the production and field use of the serum will appear in a bulletin. The veterinary department of the station is ready now, however, to answer inquiries.

APHIDS SPREAD FIRE BLIGHT IN ORCHARDS

J. H. MERRILL DRAWS TENTATIVE CONCLUSIONS FROM INVESTIGATIONS ON APPLE TREES IN DONIPHAN COUNTY

"Notes on an Apparent Relation Between Aphids and Fire Blight (Bacillus Amylovorus)" by J. H. Merrill, assistant entomologist in the Kansas Agricultural Experiment station, should prove of special interest to Kansas fruit growers. The notes have been reprinted from the Journal of Economic Entomology, and are as follows:

"Observations on this subject have been carried on since the spring of 1913 in Doniphan county by the department of entomology of the Kansas Agricultural Experiment station. During the spring of 1913 the aphids were noticed to be unusually abundant in nearly every orchard, especially on the Jonathan trees. They were found on the buds which had begun to swell but were not completely opened. Some of the fruit growers, realizing that nothing but harm could result where so many sucking insects were present, sprayed with a contact insecticide to control them. Very few aphids were found in the orchards which had received a thorough dormant spraying with lime-sulphur.

"Fire blight appeared later in the season in all of the orchards where the aphids were not brought under control. The infestation of aphids was heavier on Jonathans than on any other variety, and the blight infection was correspondingly heavy on the same trees. During the season of 1914 there was but a slight infestation of aphids and very little blight made its appearance. However, the infestation of aphids in the spring of 1915 was as severe as that in the spring of 1913. Profiting by their experience in 1913 the growers who controlled the aphids then sprayed their trees with 'black leaf 40' upon the first appearance of these insects. Others also joined them in using this spray.

"Although the fire blight was exceptionally abundant in 1915, only those orchards suffered in which the plant lice were not controlled. Observations were carried on in both Wathena and Troy and the results were the same in both places.

"Orchards in which the crops were a total loss in 1913 from fire blight injury were sprayed in 1915 with a contact insecticide and today show but very little blight, while the orchards which were not similarly treated look as though they had been swept by a fire. In one orchard part of a block of Jonathans was sprayed with 'black leaf 40' and the remainder left untreated. The latter portion is now badly infected by fire blight while the sprayed portion is practically free.

"Doniphan county, which is primarily a fruit-growing district, has offered excellent opportunities for carrying on these observations. The Jonathan trees have always shown more aphids and later more blight than the other varieties, yet when these same trees have been treated with a contact insecticide the aphids were controlled and they showed but little blight injury.

"It is not the intention to claim here that the aphids are the only distributors of fire blight but rather to give the facts resulting from experiments carried on to control these insects. These facts seem to show that there is a direct relation between the severity of the infestation of aphids and the blight infection. Work along these lines is now being continued."

FALL PLOWING IS URGED

R. I. THROCKMORTON, SOIL EXPERT, OFFERS VALUABLE SUGGESTIONS

Action of Freezing and Thawing upon Clods Has a Beneficial Effect—Soil Is Less Likely to Blow

Fall plowing for corn, kafir, milo, and other sorghums is urged by R. I. Throckmorton, assistant professor in soils in the Kansas State Agricultural college. It leaves a rough soil surface which permits a rapid absorption of moisture and snow is held more readily than on a smooth surface.

Soil with a rough, broken surface is not so likely to blow in the early spring months as one which has become smooth and compact.

"The action of the freezing and the thawing on the clods during the winter months has a beneficial effect," says Mr. Throckmorton. "They break up into small clods or granules, and a desirable physical condition of the soil is thus produced."

The weathering of the soil also helps to liberate plant foods for the use of crops in spring. Fields that have a heavy growth of weeds or straw or fodder should be plowed in the fall. The organic matter turned under will decay more rapidly during the winter months because of the soil moisture then. This increases the amount of organic matter incorporated in the soil. There is also an increase in the available nitrogen.

For land that is to be planted in corn the next year, deeper plowing is recommended than for small grains. Fall plowed land is left without further preparation until spring.

SOLVES QUESTION OF LABOR

Mr. Throckmorton advocates fall plowing as an aid in the economical distribution of farm labor.

"In Kansas where we have the late, mild falls, after the fall wheat seeding and corn picking is done, the farmer has the glorious 'Indian summer' for fall plowing," he says. "His horses are in good condition and he can do much plowing and have this work out of the way in the early weeks of the spring."

This enables earlier seeding in the spring, and facilitates spring work all around. It saves overworking the horses and men to catch up with the rush of the spring seeding.

In western Kansas, fall plowing for barley is preferable. Usually March and April are rough and snowy and unfit for field work. Where the land has been fall plowed, the seeding can be done immediately after the spring weather has come. This facilitates the germination and early growth of the plant, and often means a crop where failure follows spring plowing and late seeding.

Plowing under straw and all refuse in the fall is desirable, says Mr. Throckmorton. It helps to destroy the harbor for chinch bugs. It also exposes grasshopper eggs deposited in the soil for winter protection, and hinders the next year's propagation of this pest.

TOM BLACKBURN ON STAFF TOPEKA STATE JOURNAL

Ralph H. Heppe Succeeds this Popular Collegian Editor

Tom Blackburn has resigned as editor of The Kansas State Collegian to become a reporter on the Topeka State Journal. Ralph H. Heppe, a former editor of the paper who has been employed on the Manhattan Mercury, has taken his place.

Blackburn, who was popular among the students, introduced features which added to the general appearance and interest of the paper, and which met with the approval of both students and faculty. He is enthusiastic over newspaper work and has an unusually well developed sense of news values.

There is a deficiency in the wheat crop in some of the southern European countries. Portugal, for example, which usually exports wheat, is nearly 200,000 tons short of the domestic requirements.

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YES, THIS IS REAL WAR

FIGHTING TERMITES IS AS DIFFICULT AS BATTLING WITH SUBMARINES

So-Called White Ant Has Become Serious Pest Throughout Kansas—Tunnels into Valuable Books—Makes Floors and Stairways Unsafe

It is more difficult to dislodge the "white ant," or termite, from the woodwork of a Kansas home or barn than a submarine from mid-ocean, the assertion of George A. Dean, professor of entomology in the Kansas State Agricultural college.

"The 'white ant,' which is now recognized as one of the serious pests of Kansas, is found in nearly every section of the state," says Professor Dean.

This small insect is "in bad" with librarians because of its habit of tunneling books from cover to cover. It is not generally found in Kansas libraries, however. The pest does all its work under cover—it hunts the dark places. It bores in the woodwork of houses leaving the surface unmarred. Eventually the wood becomes a mere shell and replacement is necessary. Much damage is done in granaries and barns. The insect makes bridges dangerous by riddling the pile supports. Some damage has been done to Kansas telephone poles and fence posts.

INSECT WORKS IN DARK

Because the insect works in the dark, its ravages are more serious than generally supposed. It works so quietly and keeps under cover so carefully that many Kansans do not even know of its existence until some part of the building gives way, or books and papers are ruined.

The insect makes numerous tunnels or passageways running in the direction of the grain of the wood, but in no place do these show from the surface. Mud is used as a plaster. Cases are known in which stairways have been tunneled and though apparently sound have given way under slight weight. So hard are termites to drive from their haunts that it became necessary in one of the older buildings of the Kansas State Agricultural college to take out all the woodwork in the basement and put in concrete and steel.

"There is a report from Harper of a floor that was destroyed under linoleum," says Professor Dean. "Hedge posts do not seem to be attacked, but oak and cedar posts are damaged. Railroad ties and telephone poles are destroyed by the insect."

Large numbers of fruit trees including peach, plum, and cherry, as well as shade trees, have been totally destroyed by the insects. They start in the roots and work up into the trunk, honeycombing the wood until the tree is eventually blown over by the wind.

WOOD MAY BE PROTECTED

"After the termites have infested the woodwork of the house," comments Mr. Dean, "it is difficult to do anything with them. Of course one can tear out the wood and literally dig them out. Sometimes it is necessary to resort to this method but it is a costly means of control. Wood that is soaked in a solution of a pound of soda arsenate to a gallon of water is at least temporarily protected from attack. Timbers treated with coal tar or creosote—preferably warm—are protected for several years.

"Where easy access can be had to the places where the insects are working, gasoline or kerosene will destroy them. Do not let termites get started in the house. This cannot be emphasized too strongly. The difficulty of ridding the house of them makes any means of keeping them out of utmost

importance. It is not such a difficult task.

"Kindling is often infested and numerous instances of house infestation apparently have started from kindling thrown into the cellar.

"Wooden kitchen sheds, wooden porches, and wooden walks furnish the path the termite takes to the woodwork of the house. There should be allowed absolutely no direct contact between the wood connections of the house and the ground. With the means of entering the house thus destroyed, there is little danger of infestation."

STUDENTS FROM ABROAD ARE FOR WORLD PEACE

Cosmopolitan Club Is Reorganized with Membership Representing 14 Countries—Baghdigian Tells of Purposes

The Cosmopolitan club has been reorganized in the Kansas State Agricultural college with a membership of 25 representing 14 countries. The club stands for world peace.

"We who have come from foreign countries and are living in this peaceful country of democracy have a great moral responsibility to discharge," said Bagdasar K. Baghdigian, an Armenian student in the department of industrial journalism and vice president of the organization.

"Today brothers are killing brothers in those far-off countries, because for centuries people have been made to believe that the greatness of a nation was in proportion to its territorial expansion. This war has proved the contrary to be the case. Modern consciousness affirms that whatever blessing befalls a nation should be a blessing to all humanity."

A limited number of Americans are admitted to membership. Interesting addresses on live topics will be given at the meetings.

Among the countries represented in the club membership are: China, Russia, Germany, Denmark, Armenia, Ireland, Hawaii, Cuba, the Philippine Islands, Mexico, Sweden, Switzerland, Canada, and the United States.

Officers are: W. F. Taylor, of Mexico, president; B. K. Baghdigian, of Armenia, vice president; Edward Shim, of China, secretary; Prof. H. F. Roberts, of America, treasurer; Francisco Rodriguez, of the Philippine Islands, marshal.

STUDENTS IN ENGINEERING TO LEARN OF AUTOMOBILES

Modern Equipment Is Obtained by College—New Telephone Laboratory

The engineering division of the Kansas State Agricultural college has received, through the courtesy of the Wagner Electric company, automobile equipment to be used in connection with instruction in automobiles.

The electrical engineering department has received a 15 horsepower motor of special construction for use in its laboratory. This department will fit up a new laboratory for instruction in telephone engineering.

Some new instruments of German manufacture have been received. Two different types of pumps and filters have been installed in the traction engine building.

A portion of the partitioning on the second floor of the farm mechanics building has been removed, to provide additional classrooms.

A useful device is a rope and pulley attached to the ceiling, which permits the different farm machines to be hoisted into position. This facilitates examination from all angles. The members of the class say the new system beats the old custom of crawling under and through the various farm implements.

Sweet clover is Montana's most valuable forage and pasture plant.

WILL BE FIERCE GAME

BIG BATTLE WITH UNIVERSITY WILL PROVE HARD CONTEST

Aggie Team Must Withstand Heavy Mass Attacks of Jayhawkers—Rooters from All Parts of State Are Here—Spectators to Number 5,000

"It will be a hard, fierce game."—Bender.

John R. Bender, Aggie football coach, says that his team will pluck feathers from the Jayhawk bird Saturday afternoon on College field—that is, provided his light team is able to withstand the mass attacks by the heavy K. U. opponents.

"The Aggies will have to rely on



COACH JOHN R. BENDER

open work, speed, and passing," said Coach Bender.

"We will be outweighed and outpunted. More important than this is the fact that the Kansas team is experienced. The game, of course, will be played on the home field, and the 'scrappy Aggies' should give a good account of themselves. If we can withstand the heavy mass attacks we'll win."

Home-coming day is proving a big event. Scores of former students are here, and a large number of high school senior groups have come from various parts of the state to take in the game. They will be admitted to the field through a special gate and must be accompanied by their principals.

Hundreds of University rooters, Topekins, and other football enthusiasts, will arrive by special train today. Among the visitors expected are the members of the board of administration, Frank Strong, chancellor of the university, George O. Foster, registrar, and Merle Thorpe, professor of journalism.

OLD STARS ARE HONORED

"Beat K. U." was the slogan at the mammoth rally in the College auditorium Friday night. The program was in charge of Albert Dickens, professor of horticulture and president of the Alumni association. There was plenty of "pep." Short talks were made by former heroes of the football field. The cadet band of 70 pieces furnished music.

The official "K" was presented to those who participated in college athletics in the days when no monograms were awarded—also complimentary tickets admitting to all athletic contests on the local field. An additional "pep" meeting will be held in the chapel hour today. Tonight alumni and students will attend an entertainment in Nichols gymnasium.

Beachers have been built around the entire football field, giving a seating capacity of 5,000. The entire north section has been reserved for the Aggie rooters, students, and alumni.

Practically the entire south side bleachers have been reserved for the university contingent. The field will be patrolled by cadets in uniform.

The line-up for today's game:

AGGIES	POSITION	K. U.
Randalls.....	l.e.....	Reber
Bayer.....	l.t.....	James (Capt.)
Moore.....	l.g.....	Groft
Wright.....	c.....	Hammond
Baird.....	r.g.....	Strother
Doderill.....	r.t.....	Lawellin
Skinner.....	r.e.....	Heath
Sullivan.....	q.....	Wood
McGalliard.....	l.h.....	B. Gillespie
B. Barnes.....	r.h.....	Lindsey
Hartwig.....	f.b.....	Nielsen

WALKER STILL OFFICER OF IRRIGATION CONGRESS

Engineer Is Re-elected to Important Position—Pumps Have Come to Stay, Says I. L. Diesem

H. B. Walker, state drainage and irrigation engineer, was given another re-election as secretary of the Kansas State Irrigation congress at the last meeting of the organization. Mr. Walker's work in this capacity has been vigorously commended by farmers interested in irrigation.

E. E. Frizzell of Larned is the new president of the congress, and E. J. Guibert of Gill is vice president. The meeting next year will be in Larned.

One of the striking addresses given at the convention was by I. L. Diesem of Garden City, one of the first persons to attempt irrigation in Kansas.

"The motor and electric power have come to stay in this country," said Mr. Diesem, "for the purpose of pumping water, and the development of a large area of western land. Just because we have had an excellent year in 1915, and plenty of rain, don't get it into your head that you will no longer need irrigation. You will only fool yourself. In 1892 we had just such a season as this and it has taken 23 years for it to repeat itself. Now I say, just figure on irrigation for all time in this climate, and you will never be fooled. It will need irrigation just as long as the valley of the Nile will need it."

"Some men say these plants cost too much for the poor man. I say, 'No.' Commence with the small plant if you are not able to build a large one."

"In Iowa or Illinois, a farm of 160 acres of land is worth in a good section of the country \$150 per acre—in round numbers, \$24,000. Now, 160 acres in north Finney county can be bought for \$25 an acre—cost \$4,000. Well and pumping plant to irrigate the 160 acres would cost \$5,000. Breaking and farm improvements, house, etc., would total \$4,000. The expense for one year without an income would be \$1,000. This makes a total of \$14,000. This farm for \$14,000 is capable under these conditions of producing just as much income from its agricultural products of the farm as the Iowa or Illinois farm, with \$10,000 less invested and a good deal better country and climate to live in."

"In the last 30 or 35 years, land that sold for \$5 an acre has become worth \$100 an acre. With all the drawbacks of this as a new country, I think the development in 30 years has been wonderful and certainly a credit to all of the pioneers, whatever their vocation may have been."

STUDENTS SEE DIFFERENCES IN FORM OF APPLE TREES

Pomology Class Makes Investigative Visit to Orchard Near Manhattan

F. S. Merrill of the department of horticulture took his class in advanced pomology to the Kimball orchard three miles north of the college grounds recently for the purpose of noting the difference in tree formation among the apple trees. The students saw some apple picking done.

WARM PLACE IS NEEDED

SWEET POTATOES REQUIRE HIGH TEMPERATURE FOR STORAGE

Old Stone Building Equipped with Stove Is Just Right—Product Should Not Be Handled, Especially When in Sweating Stage

Mr. Farmer, is there somewhere on your land an old stone building for which you have no use?

If so, and if you grow sweet potatoes, you are in luck. According to D. E. Lewis, assistant professor of horticulture in the Kansas State Agricultural college, such a structure, when equipped with a stove and provided with ventilation facilities, makes an admirable storage plant for sweet potatoes. This is because the thick stone walls do not transmit heat readily.

"Cold weather is hard on the sweet potatoes," says Professor Lewis, "and they should not be left in the ground much after the first frost. If the vines were cut before the frost, however, many of the underground roots may yet be saved. They should immediately be dug and placed in some kind of suitable storage unless intended for direct consumption.

IT'S A TROPICAL PLANT

"The common idea seems to be that all that is needed to preserve any fruit or vegetable crop is to keep it in a cool place. This is misleading. Different products have different storage requirements. Fruit should remain under such conditions that ripening is retarded. This means that a temperature of from 36 to 50 degrees must be maintained.

"The sweet potato, however, because it is a tropical plant, requires a much higher temperature. During the first eight or 10 days that it is in storage two things must be insured—a temperature of about 85 degrees and ample ventilation.

"During this time, the potato is sweating. Unless the superfluous moisture is carried off, the potato will not keep. A high temperature carries it through its sweating process more quickly than a low one.

CRATES MOST SATISFACTORY

"The sweet potatoes are placed either in bins or in crates. The latter method demands more room than the former but is more satisfactory because of its superior ventilation facilities.

"A sweet potato bin should be raised six or eight inches from the ground. The bottom, and often the sides, should be of slats. Some growers prefer solid sides, asserting that these produce a better draft. Potatoes never should be piled high in a bin because of danger of bruising the lower roots with the excessive weight.

"After the sweating period has passed, the temperature should be allowed to drop to 60 degrees—never below 55 degrees. Hold it there throughout the winter by means of fires. A lower temperature brings about rotting and a higher one starts growth.

"Care should be taken to select only sound potatoes for storage. From the time that they are put in until they are taken out, they should not be handled, especially during the sweat."

WILL USE 900 TONS OF COAL IN COMING WINTER

College Is Accumulating Emergency Surplus for Cold Weather

The Kansas State Agricultural college will use 20 carloads, or approximately 900 tons of coal in the coming winter, according to Jacob Lund, superintendent of heat and power. The coal is now arriving at the rate of three carloads a week, and an emergency surplus is being accumulated back of the power plant. The coal consumption will be approximately 30 tons a day when the temperature is below zero.

THE KANSAS INDUSTRIALIST

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SATURDAY, OCTOBER 23, 1915

The trustees of the University of Pennsylvania seem to wish the Nearing case were nearing its end.

Judge Zwick of Oklahoma City has insured his popularity with the fair sex by declaring that "every woman has a sad story."

Wu Ting Fang, the diplomat, expects to live to be 150 years old, which shows the difference between politics in China and in Mexico.

Speaking of "book farming," an eastern agricultural paper runs, as the feature of its rural school agriculture department, an article on opium.

Why should any paper publish "favorite recipes of movie players"? Most of the players look as though they wouldn't know a good meal if they had it.

What has become of metropolitan enterprise? City newspapers have been content to stop with the pictures of Mrs. Galt's relatives back to the time of her great grandfather—not even a sketch of Pocahontas and John Smith has appeared.

SUCCESS FOR THE SMALL FARMER

Most of the steps toward more successful farming are simple. The Progressive Farmer, in discussing the tenant problem, points out seven steps toward home ownership, and all are simple. They are: a garden; poultry; pigs; cows; horses; better machinery; land.

While the tenant situation in such a state as Kansas is not so serious as in the south, where the Progressive Farmer is published, it is even here more of a problem than many persons realize. And the steps which have been mentioned apply just as clearly here as anywhere else.

Not to the tenant alone, however, but to every small farmer, are these steps of importance. Many a farmer on a comparatively small place is devoting almost his entire attention to raising grain crops. He sells these and buys from the store the food that his family eats. There are two losses—one in the selling, the other in the buying. By selling his grain, the farmer loses both the additional money profit that may be obtained by feeding it to stock and the fertility that may be returned to the soil by the same means. In buying food—especially the canned goods which he so often purchases—he naturally pays the heavy costs incident to modern retailing. If he grew a good home garden, much of this buying would be unnecessary.

Kansas farmers generally recognize the importance of horses and machinery. They do not, however, always recognize the importance of getting first-class machinery and of then keeping it in first-class condition.

Closer attention to these matters will result in economy of operation of the farm and greater profit and independence for the farmer.

AGRICULTURE AND BANKING

One of the signs most propitious for the advancement of farming as a business is the interest being taken in agriculture by the bankers of the country.

An expert in some phase of agriculture now addresses each meeting of the American Bankers' association. The banking interests will send delegates next month to the National Conference on Marketing and Rural Credits. Bankers are liberally supporting county farm bureaus. Banks everywhere are adopting methods which will improve agriculture in their communities.

All these steps indicate that agriculture has developed a new importance in American life, that the financial men of the country have recognized that farming must be made a real business if agriculture and rural life are to give their best to modern civilization. By suggestion, by co-operation, by assistance, the bankers can do incalculable good to agriculture. They can do more than any other group—except the farmers themselves—to establish a vital partnership between agriculture and the other industrial interests of the nation.

SENTIMENT IS CHANGING

The rapidly changing attitude in the country as a whole with reference to woman suffrage is shown by the vote taken recently by the Literary Digest. This paper wrote to 1,000 editors asking their attitude on the matter. Out of 526 replies, 391 were affirmative, 97 negative, and 38 undecided.

The editors of newspapers are regularly somewhat ahead of public sentiment in their communities, and that they are so on this question is at least indicated by the result of the special election in New Jersey Tuesday, when a heavy majority was registered against votes for women. It may fairly be assumed, however, that the editorial attitude will in a few years be reflected in more general public sentiment.

USING THE NATIONAL FORESTS

There were 18,342 special use permits in force on the national forests on June 30 last, according to the figures just compiled by the United States forest service to show the varied uses to which the public is putting the government land involved. The list includes 59 apiaries, 2 brick yards, 31 canneries, 39 cemeteries, 9 churches, 1 cranberry marsh, 32 fish hatcheries, 1 golf links, 43 hotels, 1 astronomical observatory, 10 fox and rabbit ranches, 1,085 residences, 74 resorts and club houses, 3 sanitaria, 500 sawmills, 163 schools, 9 slaughter houses, 57 stores, 16 municipal watersheds, and 182 water power sites, with many other uses. Fees collected on 7,895 of these permits contributed a total of \$175,840.40 to the general forest revenues, but 10,447 of the permits were issued without charge.

The permits cover more than 1,087,000 acres and 15,041 miles of right of way, granted for various purposes, these figures including 173,131 acres for municipal watersheds, 6,572 miles for telephone lines, and 80,593 acres and 1,919 miles for reservoirs, canals, pipe lines, and other irrigation and domestic supply works.

The steady growth of national forest business is shown in columns of yearly figures going back to the last century. Between 1891, when the first forests were established, and 1900 there were only six timber sales. The number in 1915 was 10,905. The number of free timber permits has risen from 283 in 1901 to 40,040 in 1915, and of grazing permits from 2,317 in 1901 to 30,610 in 1915. The special use permits, which were only 298 up to the end of 1905, were increased by 5,657 in 1915, making a total during the last 11 years of 42,369. Of these 18,342 are now in force.—United States Department of Agriculture.

FOUR WORDS COINED EACH DAY

Four new words are added to the English language every day, if we may accept the dictionaries as a standard of measurement. During the last three centuries the rate of growth of the dictionaries has been 1,500 words a year.

In 1616 John Bullokar, the first English lexicographer, published his "Complete English Dictionary," with 5,080 words. Edward Phillips in 1658 was able to find 13,000 words for his

"New World of English Words," and his effort was in turn surpassed by the publication in 1720 of Nathan Bailey's dictionary with a vocabulary of 45,000.

Twenty-five years later appeared Dr. Johnson's famous lexicon, which was not supplanted till 1828, when its vocabulary of 50,000 words was more than tripled by Noah Webster's dictionary, but one soon to appear will eclipse them all.

This will contain 450,000 words. Its editor says that much of the apparent expansion of the language is due to improved means of compilation; but that, while dictionaries do not furnish an exact measure of word increase,

pleasant word for the stranger, and a smile for the sometime guest, but the bitter tone we reserve for our own, though we love our own the best."

It is hard to be serene and polite with harvest hands in the field and a kitchen full of unfinished jobs, but after all it pays.—*Farmers' Review*.

A QUARTER CENTURY AGO

Items from the Industrialist of October 25, 1890

A coyote was seen near the barn one day this week.

A large party of college people visit Fort Riley today.

Julia R. Pearce, '90, is employed as

The Kansas Pioneers

Dr. J. T. Willard

Hospitality and a spirit of mutual helpfulness were prominent characteristics of the pioneers. No cabin was ever so small that others could not get in to stay all night, no stock of supplies so scant that it could not be divided. Changing work to help each other, lending implements and machinery, were necessary in order that the individuals of the community might live.

The typical Kansas pioneer was conscientious. He had come to make Kansas a free state and was as likely as not filled with religious fervor. Sunday was literally a day of rest aside from going to church, and the distance traveled to and from church service was often such as to require nearly the entire day.

The pioneer was outspoken and frank. It required no coaxing to get his opinion on anything from the conduct of his neighbor to the fundamental policies of our national government.

I believe I am justified in claiming that the pioneers as I knew them were considerably above the average of humanity, intellectually as well as morally. They were appreciative of education. This spirit was manifested in Manhattan, to which the people came with a predetermined purpose to found a college in connection with their colony. They had scarcely been here three years before the corner stone of Blumont Central college was laid with joyousness and hope. This college was later transformed into the agricultural college which keeps Manhattan on the map of the world. This interest in educational institutions is a special example of the general public spirit of the early settlers. Town halls were erected, sites donated for churches and industrial enterprises, and bonds voted for railroads, bridges, and other public improvements. Altogether, the men and women who made this region were building for the community of which they were a part and where they expected their children to remain.

they do give us an approximation of what development to expect in the future.

There are now in fact 600,000 English words, but about one-quarter of this number are rare scientific terms or words that are obsolete or obsolescent.

Not more than 25,000 are of Anglo-Saxon origin. Americans are adopting the pronunciation used in England. We don't say "Miden line."

There are now 160,000,000 persons who speak the tongue of Shakespeare.—Outlook.

A PLEASANT WORD

A young woman who followed the advice of her doctor and went out of doors to regain her health and incidentally keep soul and body together by selling household articles, said she dreaded the country inexpressibly because the women folks were so cross to her. If she went to the front doors, according to her story, they never came near, no matter how many times she knocked, while if she sought the kitchen she was met with a frown and a curt refusal. Most of them said they were too busy to look at what she had to sell.

Now farm folks are busy in summer, as we all know, but while they were frowning at that poor girl and saying "No" they could have said it politely at least. At one farm house where she was asked to sit down and rest and have a drink of water she cried from sheer relief and told the mistress that hers was the first pleasant greeting of the day. She did not want her articles, but she did treat her politely and ask her to rest from the heat and dust for a time.

There is an old saying that runs something like this: "We have a

stenographer and typewriter in the president's office at the college.

E. J. Davies, second-year in 1883-'84, and Kate M. Hibner, student in 1888, were married October 11 at Bala.

Regent Forsyth passed through Manhattan on his way home from a two weeks' campaign in the western part of the state.

Professor Walters has just completed a handsome drawing, about 20 by 24 inches in size, of the Manhattan stove foundry. The picture was painted for John A. Noon.

Since the faculty of the Oswego (N.Y.) State Normal school have forbidden their students to wear corsets, garters, and high-heeled shoes without encountering a rebellion, the matter has been agitated in many other schools for ladies even west of the Missouri. How does Emporia stand on this question?

The Athletic club, as an organization, will soon cease to exist. By mutual consent the property now in possession of the club will be transferred to the college authorities, who will at once add considerable gymnastic apparatus. Athletics for the body of students will be under the management of Doctor Mayo. The change seems to meet with general approval.

The presence of Harris's finch on the college farm this week gives us a hint of the cold storms raging in the bird's summer home, far to the north. Observers state that the finch's visit is about a month earlier than usual. The bird exhibits wisdom in the selection of its feeding grounds, for here beneath these "Italian skies" it may feast on grasshoppers and other insects to its heart's content for a month yet.

AFTER SUNSET

Algernon Charles Swinburne

If light of life outlive the set of sun
That men call death and end all things, then
How should not that which life held best for men
And proved most precious, though it seem undone
By force of death and woful victory won,
Be first and surest of revival, when Death shall bow down to life arisen again?
So shall the soul seen be the self-same one
That looked and spake with even such lips and eyes
As love shall doubt not then to recognize,
And all bright thoughts and smiles of all time past
Revive, transfigured, but in spirit and sense
None other than we knew, for evidence That love's last mortal word was not his last.

SUNFLOWERS

This is the season of the year in which the blackbirds make more noise than the women do.

We wish to extend our kindest thanks to Dame Fashion for having wrapped up Maybelle's windpipe until really cold weather sets in.

We trust that nobody had the audacity to notice that President Wilson declared himself in favor of increased armament a suspiciously short time before he announced his engagement.

The justly honored joke about some prominent citizen beating his wife up is again able to be around. This old gag is reputed to have been in high favor among some of Noah's more intelligent monkeys, having been worked with fair success on the old man himself a few days before the ark effected a landing.

LINES TO GERTIE

Since you have come into my life
The world is rosie red;
Since you have ta'en my heart from me
My soul's no longer dead.

The sweet leaves whisper from the boughs,

The sky seems gold and blue;
The little birds that fly the air Are singing, dear, of you.

The throbber moon that sails above
The clouds is full of sighs;
The tiny stars that twinkle, sprinkle Mists before my eyes.

Since I've known you all nature seems To thrill me through and through— And I suppose 'twill be that way Until I marry you.

HE DEFIED THE "ALLEGATOR"

Once upon a time, way back in the early sixties, Congressman John Covode, chairman of the famous committee that investigated the Kansas troubles during the violent contest over the slavery extension plot, became angered over an assertion made by a troublesome political opponent. With fire in his eyes Covode snapped out at his antagonist: "I deny the allegation and defy the allegator." The papers had a good deal of fun over this, but John didn't care. He wasn't concerned about little matters like that. To get there was of far greater importance to him. And he usually did. He served three terms in congress, and was defeated for re-election in 1862, when Pennsylvania, like nearly all the other states then in the union, went Democratic. The vote in the district was close; Covode managed to get a certificate of election, but the house awarded the seat to his competitor, Henry D. Foster, who was the Democratic candidate for governor in 1860 and was defeated by Andrew G. Curtin. Covode had extensive business relations in Western Pennsylvania. He died at Harrisburg, January 11, 1871.—The Editorial.

AMONG THE ALUMNI

A. O. Wright, '91, of Rogers, Ark., has written to the college concerning graduate work.

Miss Esther Zeininger, '14, is teaching domestic science at Lansing. She will be here today.

Miss Etta Sherwood, '12, is here for the Home-coming day and for a short visit with her parents.

Miss Flora Monroe, '14, is acting as cashier in the cafeteria at Cornell university, Ithaca, N. Y.

Miss Bess Walsh, '15, is director of the cafeteria in the Kansas City (Kan.) Young Women's Christian association.

H. H. Coxen, '15, is teaching in the high school in San Marcos, Texas. He is coaching athletics as well as teaching manual training.

Miss Fern V. Jessup, '11, is here for a week end visit with Virginia Sherwood, '12. Miss Jessup's home is at Overland Park, near Kansas City.

M. E. Hartzler, '14, and H. A. Thackery, '14, will be here for the Homecoming. They are with the Santa Fe railway, with headquarters in Kansas City.

Miss Ella Miltner, '15, who teaches in the schools at Kanapolis, is visiting at her home in Wichita, her school being closed for two weeks on account of diphtheria.

George Barnard, '12, graduate from the electrical engineering course, has written from Madison, Kan., asking for information concerning work for a teacher's certificate.

Miss Effie Carp, '15, is at Spearville, Kan. She is teaching one class each of physiology, methods, and reviews, and three classes of sewing. She has 19 girls in her high school sewing classes.

James L. Jacobson, '15, is teaching agriculture, botany, and human physiology in the Coffeyville high school. He says that there are 90 teachers in all in the Coffeyville schools, 20 of whom are in the high school.

Mrs. Eleanor Patrick, '15, writes from Lead, S. Dak., where she is the head of the domestic art department. She likes her work and has good prospects for next year. She says that the board of education is very generous in the matter of getting supplies, and really is willing to get more than she asks for.

A. G. Kittell, '09, visited relatives and friends in Manhattan and on the campus. Mr. Kittell was formerly editor of the college paper, which was then known as the Students' Herald. This was in the collegiate years of 1907 and 1908. He graduated in the course in general science and took a position soon after with the Mail and Breeze at Topeka, remaining there for five years. He is now editor of the Nebraska Farm Journal, having been with that publication since 1914.

BRADSHAW AN INVENTOR

A. G. Kittell, '09, now editor of the Nebraska Farm Journal, recently met A. G. Bradshaw who was a student in the college in the late '90's but who did not graduate. Since that time Mr. Bradshaw has turned inventor and has the distinction of being the inventor of the dry farming harrow and mulcher which he is manufacturing at Okmulgee, Okla.

WAR INSPIRES FOUR KINDS OF POETRY, SAYS SEARSON

College Professor Shows How Struggle Is Stimulus to Creative Instinct

War inspires four types of poetry—supplication, imprecation, exultation, and meditation—said J. W. Searson, professor of the English language, in an address to the students of the Kansas State Agricultural college.

Professor Searson pointed out the importance of struggle as a stimulus to the creative instinct, and showed how a large number of important literary works had followed upon great wars in the past. He discussed the

poetry produced so far on both sides in the present war, and read several selections.

The last sonnet written by Rupert Brooke, the young English poet who perished in the Dardanelles, was one of the most impressive poems read by Mr. Searson:

If I should die, think only this of me;
That there's some corner of a foreign field
That is for ever England. There shall be
In that rich earth a richer dust concealed;
A dust whom England bore, shaped, made aware;
Gave, once, her flowers to love, her ways to roam,
A body of England's, breathing English air,
Washed by the rivers, blest by suns of home.

And think this heart, all evil shed away,
A pulse in the eternal mind, no less
Gives somewhere back the thoughts by England given;
Her sights and sounds; dreams happy as her day;
And laughter, learnt of friends; and gentleness,
In hearts at peace, under an English heaven.

ARMENIAN COMES HERE TO STUDY JOURNALISM

Bagdasar K. Baghdigian Was Ransomed from Death in Asia Minor—Has Public Service Ideals

Bagdasar K. Baghdigian, an Armenian, who has enrolled as a senior in the Kansas State Agricultural college, came face to face with death in the massacre of 1895. The following year he and his nephew took refuge with savage tribes of Asia Minor, but were later arrested on a charge of being revolutionists. They were threatened with death but were saved from that fate by a rich Kurdish woman who gave jewels for their ransom.

Mr. Baghdigian is a student in the course in industrial journalism. He is a naturalized citizen of the United States, having been in this country ten years. During that time he has lived in Massachusetts and New Hampshire. He has obtained his education in this country. He was graduated from a Boston high school and for the last three years has attended the New Hampshire state college at Durham.

While at Durham he made the acquaintance of the president of the institution, E. T. Fairchild, former state superintendent of public instruction in this state.

Prior to the massacre of 1895 his family were in comfortable circumstances. At that time they lost everything but their lives.

Mr. Baghdigian was a member of the Young Men's Christian Association cabinet at the New Hampshire state college, being chairman of the social extension work. He is working his way through college and upon completing his course expects to go into service for men. He has high ideals of public service. He contemplates returning to his own people if they survive the present massacres.

BOY WINS STOCK CONTEST AFTER ONE YEAR ON FARM

Two Girls Take Prizes in Judging Hogs and Cattle

Brought up in New York and having spent but one year on the farm, William Couston of Kincaid won first place in judging shorthorn and Jersey cattle at the contest conducted by W. E. Watkins, county agent of Allen county at the Iola fair. Two girls took individual places in the contest, Miss Mabel Dunlap of Carlyle winning the prize in judging Poland China hogs, and Miss Helen McClure in judging Jersey cattle.

Nineteen boys and eight girls were enrolled in the contest, which was a new feature introduced by Mr. Watkins this year.

Those who entered the contest were given 50 per cent for placing the animals and 50 per cent for written reasons for the placing. Stock judging contests will be held at five other local fairs in Allen county this fall. The first premiums in these contests are trips to the state farm and home institute, which will be held at the agricultural college December 27 to 31.

HOLLOW TILE FOR FLOOR

RAY GATEWOOD TELLS OF IMPORTANT MATTER IN HOG HOUSE

Type Recommended Requires Use of Concrete—Is Dry and Warm and More Economical Than Other Kinds—May Be Kept Clean Readily

Kansas hog growers are often confronted with the question of what type of floors to use in their hog houses. Of course the farmer in building his hog house will want a substantial floor which can be kept dry and warm. The experiment station in the Kansas State Agricultural college has found that the hollow tile concrete floor is the best type for hog houses. The cost is slightly above the cost of the ordinary floors, but it is more economical in the long run.

This tile concrete floor is constructed of hollow building material 4 by 10 by 12 inches over which there is spread a coat of concrete varying in thickness from one to two inches. In putting in this floor, the ground is first graded down to the proper level and slope, and a thin coat of sand spread over the ground on which to bed the tile. The tile is then placed on the ground, leaving cracks sufficiently wide to permit the concrete to run through so that it will adhere to the blocks. The tile concrete floor is one that should be well bedded.

BEATS ORDINARY CONCRETE

"A floor constructed of this material," says Ray Gatewood, instructor in animal husbandry in the Kansas State Agricultural college, "is much warmer and drier than the ordinary concrete floor because the air space breaks the capillarity which is ordinarily found in the solid concrete floor.

"While a floor of this kind is not as warm as a good board floor, it is permanent if properly put in, and gives satisfaction. It is easy to keep clean and easy to disinfect. There are no crevices and cracks, and there is no absorption as in the case of the dirt and board floors. It is more sanitary and more permanent in its lasting qualities.

BOARD FLOORS NOT SANITARY

"Board floors are not sanitary because there are always cracks and crevices in which dirt and filth accumulate, they are harder to disinfect and clean, and have to be replaced from time to time.

"A dirt floor is liable to become rooted up unless firm clay is used. It is much more likely to become dusty, and any water or filth tends to soak into the ground. Consequently, it is not so sanitary as is the concrete type of floor.

"Brick floors are used to some extent but they are not so sanitary as the concrete floors, and are hard to keep clean. They are as cold as the solid concrete floor."

The concrete floors are found to be the best and are giving the best satisfaction, but between the hollow tile concrete and the solid concrete floor, the hollow tile one is conceded first place.

ENGINEERING DIVISION GETS MUCH VALUABLE EQUIPMENT

Seniors Will Prepare Theses on Operation of Some of the New Machines

The engineering division of the Kansas State Agricultural college has received much new and valuable equipment.

One of the additions is a 150 kilowatt Allis-Chalmers electric generator which has been connected with the service wires of the power plant. It has been hitched up to the 200 horsepower Corliss engine in the gas and steam engine laboratory. The belt, which connects the generator to the engine, is a heavy three ply affair, costing over \$300.

Three new gas tractors will be added to the present battery of six. They will be loaned to the college by the manufacturers for demonstration purposes. More tractors will be added to the equipment before the spring term.

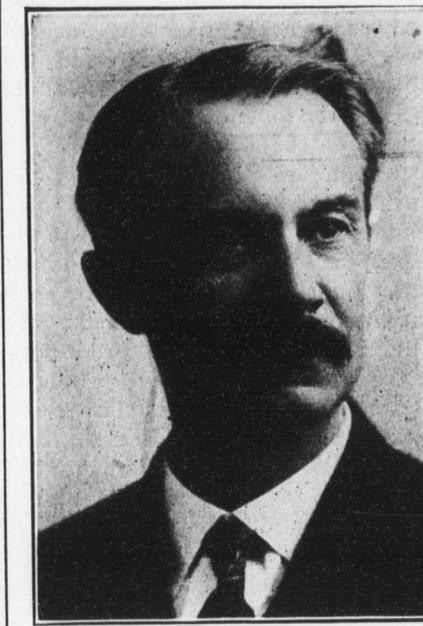
In the gas engine laboratory the newest "toy" is a 25 horsepower gas producer, which is to be turned over to the seniors for thesis work. The producer will develop 25 horsepower,

using anthracite coal as a fuel, and 35 horsepower using gasoline. The seniors are planning to coax the producer to thrive on a diet of soft coal. It is accompanied by a special gas engine fitted with various attachments for testing the efficiency of different fuels.

DOCTOR WILLARD TELLS OF EARLY SOCIAL LIFE

Pioneer Youth Engaged in Outdoor Activities—Church Festivals and Lyceum Meetings Were Frequent

A most interesting account of the social life of pioneer days in Kansas was a feature of the address of Dr. J. T. Willard, dean of general science in the college, at the exercises incident to the laying of the cornerstone of the log cabin planned by the Riley Coun-



DR. J. T. WILLARD

ty Historical society. Doctor Willard made the principal address.

"The lot of the pioneer farmer," said Dean Willard, "was one which I fear that few of the boys of our neighborhood would like to enter upon today.

"But in spite of the hardships the inhabitants were usually happy and contented and found numerous means of diversion and sport. Most of these were of the community character and tended to keep the people acquainted with each other and in sympathy. In the winter a literary society or lyceum was maintained for many years, in which music and debate, declamation and other literary features were always a part of the program. The church organization embraced directly or indirectly by far the greater part of the population and what were called 'church festivals' were frequently held. The county fair was an annual event in which music and debate, declamation and other literary features were always a part of the program. The church organization embraced directly or indirectly by far the greater part of the population and what were called 'church festivals' were frequently held. 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MAKING COLLEGE SCHEDULE IS BIG JOB FOR COMMITTEE

CLASSES MUST BE ARRANGED TO SUIT NEEDS OF HUNDREDS OF STUDENTS EACH TERM—DR. J. T. WILLARD AND A. E. WHITE IN CHARGE

Few Kansans realize how much work and forethought are required in making up the schedule of classes for a big educational institution like the Kansas Agricultural College.

The committee on schedules for the college is composed of Dr. J. T. Willard, dean of the general science division, and A. E. White, associate professor of mathematics. The former acts in an advisory capacity. The work of the committee never ends, for as soon as one term is under way, the work of making the schedules for the next begins.

When seen by an INDUSTRIALIST reporter Mr. White was busy with what he called department schedules, some having already been sent in from the different departments. This is where the work begins. The second or third week of the term, specially prepared schedule sheets are sent to the heads of the departments to be filled in with the subjects to be taught by each instructor, the days and the rooms in which the work will be handled, and the maximum number of students that can be assigned to each class.

COMMANDS ENGINEERING MEN

"The department schedules are supposed to be returned in a few days," said Mr. White, "but some of the professors are slow in getting the sheets back, thus causing much delay and inconvenience. Furthermore, some of the sheets come back poorly written and badly arranged, but I must say that I have never had any words of complaint to make of the engineering departments."

"Just look at this sheet! It is a sample of the work that I get from Dean Potter's division." The sheet in question had the work in different colors of ink for each group of students—college, school of agriculture, and short course.

When the department schedules are all back, the committee has to check them up and determine if enough classes have been proposed for all students. Often the whole schedule has to be rearranged.

WHITE'S A GOOD GUESSER

Before making up his trial schedule Mr. White has to estimate the probable attendance for the following term. He keeps a file of the enrollment in every department from year to year, and from this he estimates the number of classes that will be necessary to accommodate the probable number of students. It is interesting to know that he rarely misses his estimate more than six or eight and often guesses exactly. For example, he estimated that there would be 110 freshman engineers in school this fall and there are 106.

When the classes have all been determined they are arranged in sections, there being a sectional division for every course taken by the regular students. No divisions can be arranged for the special students. A careful record is kept of the number of students that can be assigned to each class, of the probable number of classes, and of the size of class that can be handled in each subject.

All this work must be gone over and over on the trial sheets, and it often becomes necessary to shift subjects from one hour to another, and from one room to another. Teachers are never changed from one subject to another. Before the schedule is sent to press, the heads of the departments inspect the arrangement.

HOW SCHEDULE IS CHECKED

It generally requires six weeks to complete the arrangement of the schedule. Next comes what is called "checking the schedule." Two efficient clerks are used for this work. One works with the list of rooms in which everything is taught in the entire college, while the other has a list of all

the teachers. The schedule is read off and a check is made on the teachers and on the rooms, to be sure that no two classes are scheduled for the same room at the same hour, or that two subjects at the same hour are not assigned to one teacher. After this checking process is completed, and all corrections are made, the sectional divisions are torn apart and the schedule is arranged as it appears in the regular college schedule that we see.

After the teachers have all been numbered in their proper order, and the subjects abbreviated, the schedule is turned over to a stenographer, who puts it into shape for the printer. As soon as it has been typewritten, the copy is read carefully, with Mr. White's copy. After going to the printer a copy comes back to be proofread. In order to be absolutely sure that no mistakes have been made, Mr. White takes an assigner's proof ticket, and goes through the entire schedule, making assignments for every section in the college. For the fall term of 1915, with approximately 700 classes and 180 teachers, only six errors were found in the printers' first proof copy. Three of these were checked up to the printers and three to the committee.

PRINTING REQUIRES CARE

The printing of the schedule is one of the most exacting jobs handled by the college printing plant. The composition, the proof reading, the make-ready, and the presswork all require special care, as a slight error in the finished schedule might cause serious inconvenience. The work is placed in the hands of the most skilful men in the shop.

While the schedule is being prepared, the printer is working on the assignment cards. Mr. White prepares copies of these cards at the same time that the schedule is started. The number of cards to be printed is based on an estimate of the number of students that will be in college. A file of the four-year courses in force is kept, and from term to term the subjects that have to be put on the new cards are ascertained.

This system of making out schedules is largely the product of the committee's originality and continued efforts. It is different from that used in any other college.

One of the newest features of the system is the assigning by sections, which was done in making out the freshman assignments this fall. The new method saves an enormous amount of time, and will probably be used for all classes in the near future.

President H. J. Waters has received letters from several large institutions, including the University of Kansas, the Iowa State college, and the Pennsylvania State college, commanding the system that has been worked out by Doctor Willard and Mr. White. Some of the schools have requested that additional copies of the schedule and accompanying blanks be sent to them for their careful inspection.

NO ROOSEVELTIANS ARE THESE FRESHMAN CADETS

First-Year Men Write of Opposition to Drill—Some Knock the Professors

Members of some of the freshman English classes have been writing brief editorials on "My Greatest Grievance Here in College," which have been interesting and in many cases amusing.

Military drill had the largest number of opponents. The cramped quarters in which the freshmen hold their meetings provoked unfavorable comment. Several of the would-be editorial writers thought that a lack of interest in the students was shown by some of the faculty members. Different phases of the freshman cap question were discussed.

PACK YOUR OWN MEATS

ORGANIZE SMALL PACKING PLANTS, MACKLIN ADVISES FARMERS

Bring Profits to Producers Instead of Merely to Investors of Capital—Eliminate Costs Due to Shipment Over Long Distances

The time has come when the Kansas farmer is seriously interested in some method for securing greater economy in the marketing of his live stock, according to Theodore Macklin, instructor in rural economics in the Kansas State Agricultural college, who advocates small packing houses all over the country.

"The farmer must first analyze the present method of marketing live stock with a view to classifying the expenses of the various processes involved from the farm to the packing house and then back to the consumer," says Mr. Macklin.

"He must recognize and understand the possible remedies for effecting greater economy in those processes either by reductions in their costs or by elimination of some of these processes. Finally he must study his own local community and ascertain whether or not the essential conditions exist for the establishment of an organization which will effect the desired savings and thus increase profits.

ELEVEN CHARGES ON WAY

"Under existing conditions the farmer ships his stock to a distant market and partly because of the distance 11 combined profits and charges are made before the product is purchased by the consumer. These charges are (1) shippers' profits, secured by those who collect and load the stock into cars and forward it to market; (2) expensive railroad costs due to the long distance to the market; (3) terminal railroad charges; (4) charges for yardage in the stock yards previous to sale; (5) cost of feeding in the yards; (6) commission charges; (7) packers' profits; (8) salesman expense in the disposal of packing house output; (9) railroad charges incident to the distribution of the packing house product; (10) drayage on this produce to the retailer; (11) the retailer's profits.

"If analyses be made of the facts and conditions existing, two facts stand out in sharp definition. The present large-scale business in the slaughtering and in the preserving or curing of live stock products has greatly developed economies in the processes performed by the packing house, but on the other hand it faces the charge that the various other processes are needlessly expensive and in fact that some of them are due entirely to the large scale features of the present system. In other words large packing houses have been centralized beyond the point of maximum economy. The costs due to long distance from the farm to the packing house and then back to the farmer more than neutralize the advantages of large scale business.

HAVE FIELD ENTIRELY COVERED

"Accordingly the most advisable remedy is to establish small packing houses over the country at such distances from each other that they may completely cover the field and still not overlap and thus cause shortage in the supply of raw material.

"There are certain distinct advantages to be gained by the local characteristics of a small packing plant. First if the farmer ships direct to the local packing plant he can largely eliminate the processes involved up to the time the stock gets to a big packing house.

"Again in the distribution of the finished products the distance will likewise be shorter so that the costs on the various other processes will be reduced. For example, the Farmers' Co-operative Packing plant of La Crosse, Wis., draws the great bulk of its raw material from within a radius of 50 miles. In shipping a car of live stock direct to the plant at La Crosse, instead of to Chicago, the farmers save \$60 a car simply because of the economies of the shorter distance. Besides, there are the profits of running the plant, which are prorated back

to the producers instead of going as a profit to capitalists.

"In the marketing end of the business most of the product is sold within a radius of 150 miles of La Crosse so that the costs of shipping to the consumer are greatly reduced.

"Farmers' co-operative packing plants make savings that mean greater profits to the farmers and they also bring to the producers the profits of running the business instead of leaving them to investors of capital.

MINIMUM COST IS \$150,000

"According to the best authority, a packing plant of this local type, to be of an efficient size, should cost complete, including cash for running expenses, not less than \$150,000, nor more than \$250,000. It needs to be large enough to be operated economically and still it must remain small enough so that the product may be entirely disposed of to local traders. The moment that a plant handles more than enough to supply local trade within say 150 miles, the whole problem of distant markets and the various increased costs comes up.

"The beginning steps in establishing these local packing plants are, first, for the farmers of a given community to become thoroughly versed in the principles of co-operation; second, to determine the exact local conditions; third, to find out if an efficient manager is available—and to be willing to secure his services by paying him the necessary high salary; fourth, to proceed to organize on a strictly co-operative basis and to commence the selling of shares to prospective patrons. It is best to limit stock ownership to the patrons, thus combining ownership with production."

COME, KANSAS HOUSEWIFE, DRY THOSE BRINY TEARS

Grieve No More Over Wilted Petals and Blackened Leaves—Damage May Be Repaired

Come, Kansas housewife! Dry those briny tears and grieve no more over wilted petals and blackened leaves!

The damage done by the first frost may often be repaired, according to M. F. Ahearn, associate professor of horticulture in the Kansas State Agricultural college.

"If geraniums have been frost-bitten at the tips, they may be taken in and cut back," says Professor Ahearn. "New shoots usually start growing within a few days.

"Plants brought into the house should be kept in the shade for several days until the roots have had time to take hold. Nearly all outdoor plants will root readily from cuttings in sharp sand and they are much easier to cultivate than when planted in ordinary soil. When planting time arrives the following spring, these plants are thrifty, vigorous specimens just suited to a hard campaign against sun and wind.

"Bulbous plants, such as the canna, the dahlia, and the caladium (elephant's ear), may be taken in after the frost has killed the tops and kept in a moderately cool, dry place until spring. A cellar is usually the best place.

"Bulbs preferably should be taken up in the early morning and on a warm day. Leave them in the sun to dry until evening. A little soil should be retained on them.

"An ideal way is to place the bulbs on shelves, close enough so that they will just fail to touch. Fill the spaces between them with sharp river sand.

"Examine the bulbs from time to time during the winter. If they show signs of shriveling, moisten them with water. Allow the sand to dry out, if there is any evidence of rotting.

"In wintering over bulbs, atmospheric conditions play an important part.

"Some people pile their bulbs all together in a barrel or box. This method is rarely successful and eight out of 10 that use it fail to profit by it."

I dare not conjecture what will happen when the very worst criminal meets the very best criminologist.—Gilbert K. Chesterton.

MANURE ADDS TO YIELD

IS EFFECTIVE AS TOP DRESSING IN PREPARING FOR WHEAT

Experiments Covering Five Years Show Consistent Results, Which Are More Marked, However, in Best Seasons—Throckmorton Discusses Tests

That the use of manure as a top dressing in preparing land for wheat increases the yield materially, has been shown by experiments made by the department of agronomy in the Kansas State Agricultural college. These experiments cover a period of five years.

Two fields on the agronomy farm are used continuously for growing wheat. These fields have the same kind of soil, are always plowed and cultivated in the same way, and are seeded at the same rate and time. One field, however, receives 2½ tons of barnyard manure each year as a top dressing while the other receives no manure whatever.

GAIN EVIDENT FIRST YEAR

The first yield was obtained from these fields in 1911, when the manured field made a yield of 29.39 bushels an acre, and the unmanured a yield of 25.84 bushels an acre, showing an increase of 3.55 bushels an acre through the use of manure.

This difference was not so great as during later years because the greatest increase in yield of wheat from manure does not come the first season after the application.

In 1912 the yield was low because of poor wheat conditions. The yield from the manured field was only 6.68 bushels an acre, while the unmanured tract yielded but 5.68 bushels. A noticeable factor in these figures is that as the yield decreased the effect of the manure also decreased. This indicates that during a poor season for wheat the effect of manure will be less than in a favorable season.

SHOWS CUMULATIVE EFFECT

In 1913, 1914, and 1915, the increase resulting from the use of manure became more pronounced, ranging from six to nearly 11 bushels. This marked difference is no doubt due to a number of causes. The field which had received no manure is becoming less productive while the one receiving manure is apparently becoming more productive and the cumulative effect of the manure is becoming more noticeable.

"The average result for a period of five years proves beyond a doubt that the use of manure as a top dressing on wheat is a most profitable practice," says R. I. Throckmorton, expert in soils. "The average yield for the unmanured field was 17.20 bushels, while the manured field yielded 23.47 bushels an acre or an average increase for five years of 6.27 bushels an acre due to the annual application of 2½ tons of manure applied during the winter as a top dressing."

SECURES EQUIPMENT FROM GERMANY IN SPITE OF WAR

Applied Mechanics Department Purchases Machinery for Use in Laboratories

The applied mechanics department is in possession of much new equipment. This includes a rolling planimeter, bought through the Keuffel and Esser company and shipped this summer in spite of the war.

An Ashcroft averaging planimeter for measuring areas of indicator cards has also been purchased. This machine not only saves labor in calculations but eliminates to a great extent the possibility of error since it reads the mean pressure directly.

In the laboratory there is a new Sackett revolving stone screen which can be operated by power or hand and which can be adjusted to grade various sizes of crushed stone. This machine is an added convenience for the use of the men making concrete tests.

An orifice tank and a Cook deep well pump have been installed in the hydraulics laboratory.

The gas engine laboratory is being remodeled to afford better accommodations for the work carried on there.

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COLOMBIA ASKS JARDINE

SOUTHERN REPUBLIC WANTS DEAN FOR AGRICULTURAL SURVEY

Offers Him Also Professorship in University, Which He Declines—Field for Dry Farming Believed to Be Extensive in South American Country

The republic of Colombia in South America has requested W. M. Jardine, dean of agriculture in the Kansas State Agricultural college, to make a survey of the country for the purpose of determining its possibilities with respect to dry farming. Dean Jardine has not yet accepted the offer, as certain details in connection with it are still incomplete. A professorship in the university maintained by the republic, was also offered to Dean Jardine, but this he declined.

The survey would take from four to six months and would require a tour through each of the 19 states and territories, or departments and intendencies, as they are there called. The offer to Dean Jardine was made personally by Antonio Borda, who was sent to this country by his government. He is a graduate of a German university, farmer, and prominent man of affairs in Colombia.

IS EXPERT IN DRY FARMING

Dean Jardine is one of the leading experts of the United States in the field of dry farming. For the first 20 years of his life, he lived on ranches in Idaho and Montana, where dry farming is practiced. Most of his college training was in the Agricultural College of Utah. He spent several years in charge of dry land grain investigations for the federal government. He was recently elected president of the International Farm congress, an organization which emphasizes dry farming.

The area of Colombia is approximately 460,000 square miles, or somewhat less than Kansas, Nebraska, North and South Dakota, Iowa, Missouri, and Arkansas combined. The population is five and a half million. A comparatively small part of the country is under cultivation, but the soil is fertile. A considerable part of the country is believed to be adapted to dry farming. This area includes practically all of one state, which is at a great altitude and has an annual rainfall of 20 inches.

WIRT TELLS CANADIANS HOW TO HARVEST ON WET FIELDS

Farm Machinery Expert Writes Special Article for the Nor-West

Kansas is not the only spot which, because of muddy and sometimes watery fields, had trouble this year in harvesting wheat. Wet fields are experienced annually in portions of Canada, and this season was no exception.

The Nor-West, an agricultural paper of Canada, wrote to the department of farm machinery in the Kansas State Agricultural college for information on the numerous contrivances used in this state to facilitate wheat harvesting.

F. A. Wirt, in charge of this department, has prepared an article for publication in this paper. The article is accompanied by photographs taken by Mr. Wirt last summer.

FARM BUREAU IN LINN HELPS BOURBON COUNTY

Important Work in Progress for Elimination of Hog Cholera

The farm bureau in Linn county and the Hog Cholera Prevention club are kept busy in keeping hog cholera from Linn county and calls are coming to them from across the line in Bourbon county for help.

In his report to the division of extension of the agricultural college, C. K. Peck, county agent, states that

the farm bureau of Linn county has been able to assist Bourbon county in securing serum from the college storage plant at La Cygne and to give suggestions as to sanitation and feeding, but that the regular work of the Linn county bureau keeps the agent busy in Linn county seven days in the week.

Since September 10, 817 hogs have been vaccinated with the serum alone treatment, and eight post mortem demonstrations have been given so that the farmers may be better acquainted with hog cholera. Of the hogs vaccinated with serum, 16 well herds were in close proximity to cholera and reports from these show that none have taken sick, while entire herds not vaccinated have died.

WHAT IS BEST FEED TO FATTEN CATTLE?

Animal Husbandry Department to Make Test with Hereford Calves Another Experiment at Fort Hays Station

The relative value for fattening purposes of shelled corn, ground corn, ground corn and cob meal, ground kafir, ground kafir heads, and shelled corn and molasses will be determined by an experiment to be conducted by the animal husbandry department of the Kansas State Agricultural college.

One hundred high grade Hereford steer calves have been purchased and will be divided into six groups. The calves in each lot will receive one of the feeds mentioned, together with cottonseed meal, alfalfa hay, and silage. L. B. Mann, who received his degree from the college last year, will be in direct charge of the work.

At the Fort Hays Branch Experiment station, experimental work is to be done in the winter with 100 heifers. The purpose of the test will be to show how the waste materials of the western Kansas farm may be effectively utilized for feed.

ALUMNUS PLANS TOUR OF UP-TO-DATE FARMS

Levine Will Take Boys of Marshall County to See Progressive Agriculture—Experts Will Speak

C. O. Levine, '14, of Marysville, as chairman of the agricultural committee of the Marshall county Young Men's Christian association, is planning a tour of the progressive farms of the district for the boys of the county on November 2. Farmers have agreed to furnish automobiles for the occasion, and the superintendent of schools will excuse all boys who care to take the trip.

Albert Dickens, professor of horticulture in the Kansas State Agricultural college, and a government hog cholera man, will be among the experts who will talk to the youngsters in the course of the day. Short talks will be made at every stop. An interesting program has been arranged for the dinner hour.

The object of the tour is to interest boys in country life and better farming methods.

Should adverse weather conditions prevail the trip will be postponed to November 9.

MANY BOYS AND GIRLS WORK IN COUNTY CANNING CLUBS

Organization in Harvey County Wins Prize for Fruit and Vegetable Display

Canning clubs have been organized in many counties where county agents are at work, through the effective work of the agents and the state leader of boys' and girls' club work.

One of these clubs was formed at Hesston in Harvey county through the efforts of F. P. Lane, county agent. This club won first premium for the best display of fruits and vegetables from a school at the International Wheat congress at Wichita.

PLANT YOUR BULBS NOW

SUPPLY IS SHORT THIS SEASON BECAUSE OF EUROPEAN WAR

Albert Dickens Tells of Methods of Protection and Culture—Holland, France, China, and Japan Furnish Most of Common Varieties

Now is the time to plant your bulbs for spring flowering. There is a shortage in the supply this season because of the European war, so the sooner the better.

"Bulbs fill an important place in flower garden rotation," says Albert Dickens, professor of horticulture in the Kansas State Agricultural college. "They are put into the ground after the summer flowering plants are out of the way, and are through blooming by the time the summer plants are set out the following growing season."

The hyacinth, the tulip, the narcissus, and the crocus are the most popular Holland bulbs. These bulbs are easily planted, require practically no attention, and make an attractive showing early in the spring when flowers are scarce.

EVERYONE SHOULD HAVE SOME
"Everyone should have a bed of flowering bulbs," says Professor Dickens. "For an expenditure of but \$3 or \$4 it is possible to produce a gay and pleasing color effect."

The bulbs should be planted from three to five inches deep according to the nature of the soil. In sandy or light soil the deep planting is preferable, but in the heavy loam two or three inches is deep enough.

For protection against severe weather it is best to make a covering of straw or coarse manure. This covering assures earlier flowers and tends towards producing larger and stronger plants.

BE SURE OF DRAINAGE

A good supply of well rotted manure should be worked into the ground before the bulbs are planted in the fall. For pot culture the pots should be prepared carefully in order to assure adequate drainage. Plant the bulbs one inch below the surface, water them thoroughly and put them away in a dark cellar or bury pot and all in the garden, covering the pot with eight or 10 inches of soil. In six or seven weeks they are ready to be brought into the house.

A four inch pot is the best size for a single bulb, while a six or eight inch pan will hold several bulbs.

While making their growth in the house, the bulbs should be near a window but not in the direct sunlight. The temperature should range between 50 and 70 degrees.

CHINESE LILIES ATTRACTIVE

Other good bulbs for house culture are Chinese lilies. These are generally grown in bowls or dishes of water three inches in depth. The bowls are filled with gravel or shells to prevent the plants from falling over. They are placed in a dark room or closet for several days or until the roots start freely.

Hyacinths, tulips, crocus, and narcissus bulbs come principally from Holland; paper white narcissus, French Roman hyacinths and candidum lilies from southern France; Chinese sacred lilies from China; and other varieties of lilies from Japan.

Every spring a representative from the large Holland growers visits this country and takes orders for bulbs to be delivered for fall planting.

SUBMARINES BOTHERED BULBS

"The Dutch and French bulbs were grown this year despite the war," Otto Barteldes, Lawrence seedsman, informs THE INDUSTRIALIST. Many of the bulbs after shipment for this country, however, were sunk in mid-ocean. The Arabic, which went to the bottom of the sea, carried a large tools.

quantity of bulbs from France, and this has made a shortage in some varieties.

"One district in China was quarantined and no sacred lilies were sent out. This combined with the difficulties in all ocean shipping made a shortage in these bulbs."

KANSAS WILL BECOME LEADER IN DAIRYING

Climate and Feed Are Right, Says O. E. Reed—Silos Multiply 150 Times in Five Years

Kansas is making rapid strides as a dairy state and is sure to become a leader in the production of dairy products, according to O. E. Reed, professor of dairy husbandry in the Kansas State Agricultural college. Kansas realized more than \$1,000,000 more in 1914 through the sale of dairy products than in 1913.

"Kansas is sure to become one of the leading dairy states in the union because of her natural fitness in the way of climate and feed," said Mr. Reed. "As the population increases, the demand is going to be great, and it is going to be furnished from home grown stuff. There is a greater demand for special purpose dairy cows today than there ever has been before. There is no question that Kansas will be right in line so far as dairying is concerned."

"The future of dairying depends on grade dairy cattle rather than purebreds. It is highly important that the farmers pay more attention to the selection of bulls so as to get bulls from high producers to use for grade cattle. The farmer cannot pay too much attention to the quality of the sire, which should be of a good mother and a good family that has a good record back of it."

The increase in population and the high price of land has caused more diversified and intensive farming. The farmers have found that dairying brings in more consistent returns than does grain farming. Dairying keeps up the soil fertility, and puts farming on a more permanent basis.

Other factors which serve to aid Kansas as a dairy state are her mild climatic conditions, and the growing of alfalfa hay. At the present time, Kansas has more than 1,000,000 acres in alfalfa.

The use of the silo has been another important factor. Five years ago there were approximately 60 silos in the state, while now there are more than 9,000. The dairyman as a rule can make more profit out of the silo than can other farmers.

STUDENTS MAY INSPECT BEST HORSE IN KANSAS

Isola, Champion at Both Fairs, is in Charge of Animal Husbandry Department for Winter

The Kansas State Agricultural college now has, for the inspection of the students, the best horse in Kansas. The Percheron stallion, Isola, six years old, has been sent here by a group of farmers near Emporia, and will be kept here through the winter. It won the grand championship at the state fair at Hutchinson and the age championship at the Topeka free fair. While here it is in charge of the animal husbandry department.

ENGINEERS GET PHOTOGRAPHS USEFUL IN PRACTICAL STUDY

Pictures Are Donated to Division by Well Known Manufacturers

The engineering division of the Kansas State Agricultural college has received 25 large framed pictures to be used in the drafting rooms, classrooms, and laboratories. These pictures will prove valuable in the study of steam and gas engines, pumps, and machine tools.

BIG TIME FOR FARMER

FARM AND HOME WEEK WILL BRING HUNDREDS TO COLLEGE

Classes to Be Taught in Practical Agricultural Subjects—Special Features for Women—Prizes for Boys and Girls—Rural Leaders to Meet

Farm and Home week at the Kansas State Agricultural college—December 27 to January 1—will be a big time for not only the Kansas farmer but his family and any friends that he wants to bring along. It will be a week of study and entertainment—there will be "something doing" all the time. The women and the boys and girls are particularly urged to attend. An enrollment of at least 1,500 is expected.

The tenth annual exhibition of corn, sorghums, and other grains will be a feature of the week. Exhibits are looked for from all parts of the state.

More than \$400 in premiums is offered in premiums in the corn and sorghums contests for boys and girls who have been in agricultural clubs and contests conducted in the various counties in the summer.

SPECIAL MEETINGS FOR STOCKMEN

There will be special meetings for breeders of horses, sheep, dairy cattle, beef cattle, poultry, and for fruit growers and crop men.

The State Farm and Home institute will be held with classes in the following subjects: soils, crops, live stock, dairying, cream station operation, poultry, live stock diseases, fruit growing and gardening, judging of grains, judging of beef and dairy cattle, horses, hogs and sheep, and judging of fruit. Classes will be conducted for the women in cooking, sewing, textiles, home management, and other subjects. Classes in engineering will include study of gas and steam engines, automobiles, concrete work, road work, farm lighting, and general farm engineering. A special program for the boys and girls is being arranged.

MUSIC AND LECTURES PLANNED

The rural life conference for ministers, teachers, officers of farmers' organizations, and individuals interested in community welfare and leadership will be held the same week. This conference takes the place of the school for rural leaders which formerly has been held in the summer season.

A special assembly will be held each day at 11 o'clock in the morning and 7:45 in the evening, when all persons here for Farm and Home week will come together for music and lectures by men and women of national reputation.

Last year more than 1,200 registered for the week. This year it is expected that the attendance will be much larger.

SCHICK JUDGES EXHIBITS OF KAFIR AT BUTLER CARNIVAL

Agricultural Student Is Honored by Appointment to Position at Big Fair

G. M. Schick, Jr., a senior in agronomy in the Kansas State Agricultural college, was chosen to judge the kafir exhibits at the annual kafir carnival, which was held at Eldorado, Butler county, this week.

This carnival is the largest fair of its kind held in the state each year, and has attracted wide attention. It is seldom that such a responsible position is trusted to a student, but Mr. Schick is a sorghum judge of unusual ability. He is connected with the research work that is being carried on by the experiment station at the college with sorghum crops and has shown marked talent and rare ability.

Mr. Schick is a member of the Alpha Zeta fraternity and Hamilton literary society. His home is at Plainview Tex.

THE KANSAS INDUSTRIALIST

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H. J. WATERS, President.....Editor-in-Chief
N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

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Newspapers and other publications are invited to use the contents of the paper freely without credit.

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SATURDAY, OCTOBER 30, 1915

The end of the peroxide shortage will prove a boon to many actresses and dancers—and others whom most of us are too considerate to mention.

The leading candidate for president of Mexico seems to be a Mr. Tagle, who is one of the three or four prominent citizens who have not fled or been shot.

A Kansas City girl is trying to re-plevin an engagement ring. If she succeeds, a man is likely to have to buy a new ring from now on for every fiancée.

All the warring nations are talking loudly about what they will allow. It appears from the distance, however, to be more a question of what their enemies will allow.

A farm paper refers to a "profitable adventure in muck." Most of the magazines have tried something of the sort successfully, and there ought to be some chance for the ordinary gardener.

AN HONOR TO THE STATE

The honor which comes to Dean Jaridine in the request from the Colombian government that he undertake an agricultural survey of the country is not only a personal honor but an honor in which the whole institution and the whole state share. It is the character and the standing of the faculty of a college that give the institution prestige in the nation at large and abroad, and the Kansas State Agricultural college is peculiarly fortunate in having on its faculty a man who has attracted attention for his research and his practical ability, even on another continent.

To attract such attention, however, is not so unusual as to be asked to undertake an official mission. It is not a common thing for a nation to go thousands of miles to secure an investigator on a matter of national interest. When this is done it means that the man thus sought is regarded far above the general run of even well-known scientists.

This is the second time within a relatively short period, it may be remarked, that the college has been called upon to furnish an investigator for a service abroad. It is only a year since President Waters made the Philippine investigation which has caused so much favorable comment and has already led to such valuable results. These things indicate the world-wide reputation which the college and its faculty are developing.

THE TYPICAL FARMER

A dispatch from Wichita this week tells how three confidence men "sold" the Scottish Rite temple there to a "typical farmer." This "typical farmer" told the police that "them slickers" had got him to sign some paper "so long, so wide, and so folded" and had obtained all his money.

THE INDUSTRIALIST doesn't know the attractive young man who wrote the story; it infers that he is attractive because newspaper men regularly are, and young because of the story that he wrote. It ventures to infer further that he has never seen anything nearer a farm than the Wichita school gar-

den, or anything nearer a farmer than the "hecker" cartooned in the metropolitan daily on the exchange table. His idea of a typical farmer is the cartoonist's idea—a tall, gaunt, stooped old man with scraggly grey-brown whiskers through which the southwest breezes blow. When this typical farmer comes to Wichita, his dirty linen duster flaps wildly behind him as he sets his brown valise down on the sidewalk, sticks his twine-tied green umbrella under his arm, and stares up at the tall buildings. Then the "slickers" get him.

Now there are such farmers, living in districts remote from railways, telephones, and the other appurtenances of civilization. But they are as far from the typical farmer as day is from night. The typical farmer of the United States has property worth \$8,000. He takes a daily newspaper. He has a telephone. He obtains market quotations from the nearest city whenever he pleases. He owns an automobile or a good team and carriage. He has a razor and uses it. On the farm he wears such clothes as the town mechanic wears. In the city he dresses like other citizens. You couldn't sell him the linen duster of the cartoon, let alone the Scottish Rite temple of Wichita. He stops at a good hotel and doesn't attempt to blow out the gas or the electric light. The typical farmer is a business man with an investment equal to that of the typical town business man, and he is becoming every day more and more familiar with the modern principles of business efficiency.

PERIODICAL ADVERTISING PAYS

One argument in favor of advertising in periodicals rather than by means of posters is that newspapers and magazines possess a measure of permanency that posters do not. As Tom W. Jackson facetiously remarks in the Editor and Publisher—

"All goats delight to take a bite
Of posters on a fence.
Both night and day they chaw away
With appetites immense."

And then again, the merry rain
Will posters wash away.
You can't insure, that's true for sure,
How long the sheets will stay.

So all wise guys—they advertise
In papers, so they do—
Where rain can not hurt it a bit
Or goats break in and chew."

The big argument in favor of advertising in periodicals, however, is the standing which is there given to the advertisement. An advertisement on a sign board has no standing. Nothing in the billboard inspires confidence on the part of the reader. All that advertising of this sort does is to attract the reader's attention. Advertising in a newspaper or magazine, on the other hand, carries with it the standing of the periodical in which it appears. People put confidence in what they see in their favorite publication, whether it is news, special article, editorial, or advertising. The stronger the confidence the paper has been able to inspire in its readers, the more valuable is the advertising.

WATER IN THE KITCHEN

On one of those numerous pieces of attractive advertising so freely handed out at the state fairs was the photograph of two women. One was drawing water from a faucet over the sink in her kitchen, while the other was standing in the snow with a shawl thrown around her shoulders pouring water from an ice covered bucket into a pail sitting by the well curb. In the accompanying piece of literature the usual emphasis was placed upon the fact that by this method of providing water for the household, farm women were exposed to danger of colds, pneumonia, and other troubles which are so very liable to result from exposure during inclement weather.

The woman who has water in her kitchen, brought there by a pipe, not only is free from this needless exposure but is saved much labor and effort. The difference between the woman who must get her water out doors at the sleet-covered well and the one who draws the water from a faucet in the kitchen, is merely a difference of some \$86 if it is brought with the

most up-to-date method of air pressure tank and pump, or a matter of \$10 or \$12 if brought with a hand pump. Yet with winter coming on many women will begin another season of carrying water through the winter months with scarcely a thought or a murmur, although the amount necessary to correct this is less than it would cost to insure them against accident from this source, for one season only.

The reason nine out of 10 farm women do not have water conveniently supplied in the kitchen is due to the fact that they think they cannot afford it or else, never having had it, do not know what they miss. The woman who feels that this cannot be afforded

grows weary of her wonders and they are constantly piling up.

The announcement of American scientists discounts the goal now of Europe's scientists. They are in their laboratories working day and night to concoct gases that will kill, explosives that will shatter blocks, and other means for making war as inhuman and barbarous as possible. Their aim is death.

Science in the United States has been busy not to kill: In medical research our surgeons have found means of counteracting the effects of battle wounds. They have developed new methods for treating serious injuries. Conservation has been their aim in

The Universalization of Literature

Dr. Richard Green Moulton

Periodical literature comes as a natural stage in the evolution of literary form. Oral poetry, passing into books, gives floating literature a share in the development of the world's greatest literary achievements. The progression so commenced continues, and in a perfectly natural way leads on to a floating literature that is periodical; each of the main literary forms shows affinity for this periodical medium. If it be true that certain great literatures, such as that of ancient Greece, show nothing of this kind, it is because these literatures were prematurely arrested, and did not last long enough to attain their complete evolution.

More than this, journalism is the universalization of literature. The original oral poetry, we have seen, was addressed to the public as a whole; the passage from oral to written limits literature to a reading class, with a correspondent narrowing of interest, since literature must reflect the interest of the audience to which it appeals. With periodical literature the appeal and the breadth of interest are again made universal. And this universalization of literature by journalism is not potential, but actual; periodical literature is bound up with every detail of commercial activity and public life. Of course, the theory has been that, if the advent of books was a limitation of literary interest to a reading class, this was a temporary thing, to be overcome by education. But when we turn from theory to practice, we find that education has signally failed to bring about what is required; it has concerned itself with development of faculty only, not with stimulation of motive and interest. Public schools can easily make reading universal in the sense of giving the faculty to read; but have they given motives for reading or impulse toward literature? Where education has failed, journalism has succeeded: the newspaper has made literature a universal interest.

should consider the fact that aside from the risk of exposure, as pointed out by the man who has pumps or water systems to sell, there is the labor involved, which is of utmost importance. Wasting time is one of the least excusable wastes there is, and every one knows that the woman on the farm has less time to waste than almost any other human being.

If the risk of breaking a leg or contracting pneumonia is not sufficient to induce a thinking person to bring the water into the kitchen that of wasting time, making countless steps and carrying tons of water in the course of a season should make it sufficiently strong to produce serious thought and consideration.

It has been said by investigators that nine farm women out of 10 would have this great convenience if they knew what they were missing by not having it. Whether true or not true, farm women should look into the matter carefully before beginning another winter of water carrying.—Farmer and Stockman.

OUR SCIENCE CONSTRUCTIVE

Science has cut down distance again and we are told that conversation by wireless telephone between New York and Hawaii has been accomplished. The next move the officials will announce will be a conversation across the Atlantic by wireless telephone. The wire telephone has developed from a luxury to a practical necessity in a few years. Now it is the wireless apparatus that sends the message high in the air across space at an increditable speed. In spite of wars science never

steals destruction. The development of the telephone is another move in behalf of conservation. On this side of the water science has been put to the test in behalf of humanity and is accomplishing more for the world and history than all of the wonderful outputs of the famous German laboratories.—Salina Journal.

A QUARTER CENTURY AGO

Items from the *Industrialist* of November 1, 1890

Three boxes of books, one from London, have arrived for the library this week.

Professor Georgeson is testing the value of stock-melons, kohlrabi, and sweet potatoes as feed for milch cows.

The house on the "Old Place," which has been for many months without a tenant, is to serve as a voting place in precinct 1 next Tuesday.

The president's house gains this week supplementary heating apparatus in the shape of hot water radiators heated from a coil in the hot air furnace.

A handsome nickel-plated composing stick, presented to him by his brother, adds to the pleasure of L. H. Pellet's work as compositor in the printing office.

J. W. Bayles, '89, who is teaching the Mt. Pleasant school, looked in upon friends Friday, October 17, his school having been dismissed on account of the fair at Riley.

Professor Failyer and Assistant Willard are making extensive analyses of sugar beets this fall, since the varieties of sorghum have ceased to yield satisfactory results on account of early frosts.

THE ORCHARD

William Morris

Midst bitten mead and acre shorn
The world without is waste and worn,
But here within our orchard-close
The guerdon of its labors shows.
O valiant Earth, O happy year
That mocks the threat of winter near,
And hangs aloft from tree to tree
The banners of the Spring to be.

SUNFLOWERS

The trouble with most of our social ideals is that they really belong to someone else.

One's faith in humanity always rises frantically when one hears a frail, willowy splinter of a girl call her big, fat chum "kid."

We wish to acknowledge with thanks the startling information from Olga Petrova that dress is the most important interest in woman's life.

It has been announced that the Rock Island railway will adopt a slower schedule in this state. We fear it will be necessary to attach cowcatchers to the observation cars.

REVENGE

I'd like to be a cubist maid
With fingers long and wavy,
I'd sink them in my artist's hair
And jerk it out, by gravy.

AUTUMN

Sudden freeze,
Barren trees,
Trembling knees,
Screeching sneeze,
Tough disease,
Hopeless wheeze,
Passports, please!
Doctor's fees (?)

A HISTORICAL DISCOVERY

The K. C. Star remarks that "in the British museum there is a prescription signed by the 14 doctors who crowded around the sick bed of Charles I and kept him from getting air so that he died." Our idea, from a brief perusal of English history, was that Charles died because the Puritans beheaded him, but we must have been wrong after all.

THE STREAM OF PIFFLE RUNS EVER CLEAR

High school girls must wear sailor suits or middies of solid color, made of wool or cotton, and the necks must be high, with sleeves below the elbows, according to a ruling of the board of education, today. Girls are forbidden to wear personal ornaments of any sort. Boys must not wear sweaters or jerseys to school.—Watertown (S. Dak.) dispatch.

Moral—for ambitious press agents: You can always secure publicity for flapdoodle.

RURAL ROUTE ROADS

The rural route men are begging for better roads, so they may deliver the mail.

It is coming square up to Kansas, one of these days, that she will have to build permanent roads, not only on the rural mail lines, but on all important highways everywhere. And that time is not so far away, either.

The roads are being used three or four times as much as they were a few years ago, and with the other families buying motor cars, that have not already done so, there will be a unanimous demand for better roads.

Soon no one will be found to oppose permanent road improvements, in either city or country. As a matter of fact, the building of good roads, that may be used any day in the year, is the best investment the man who lives alongside of one, or the man who is forced constantly to use it, can make. It pays a dividend all the time. It is a money saver. The cost of construction is not so large, in a country of valuable lands and prosperous cities, but what we can stand it. And the returns in the added use and the possible continual use, will be very large, indeed.

The rural route carriers may start something that needs to be started. If they do, they will be given full credit. —Hutchinson News.

AMONG THE ALUMNI

H. E. Rose, '15, is principal of the high school at Sylvia.

Miss Laura Belle Falkenrich, '15, attended the game Saturday.

M. H. Sims, '12, is principal of the high school at College Springs, Iowa.

Miss Josephine Perrill, '15, is teaching in the high school at Lakin, Kan.

Miss Izil Polson, '14, of Fredonia was the guest of relatives here early this week.

G. W. Williams, '15, who is farming near Bigelow, attended the game Saturday.

E. F. Boettcher, '13, is in the drafting rooms of the navy yard at Norfolk, Va.

Miss Madge Rowell, '15, is teaching home economics in the schools of Alma, Ariz.

Miss Ethel Goheen, '13, is teaching domestic science in the high school at Holtonville, Okla.

The Rev. W. C. Howard, '77, has accepted a call to Summerville, in Santa Clara county, Cal.

O. E. Smith, '15, who is teaching in the Olathe high school, returned for the game Saturday morning.

Miss Fern Weaver, '12, is teaching domestic science and art in the Trego county high school at Wakeeney.

Miss Elsie E. Baird, '15, is delighted with her teaching of home economics in the high school at Fredonia, Kan.

L. R. Elder, '06, was a college visitor Tuesday. He is manager of the municipal motor department of Portland, Oreg.

Miss Pauline Clark, '15, who is teaching domestic science and art in the Paola high school, was here for the K. U. game.

Born, to Mr. and Mrs. Frank W. Grabendike, '07, 3009 East Second street, Wichita, on October 2, a son, Frank William.

Miss Blanche Ingersoll, '11, has accepted a position as instructor in home economics in the Iowa State college at Ames.

Miss Mary Johnson, '15, who is teaching sciences in the Lebanon high school, visited with friends over Saturday and Sunday.

W. A. Shuster, '13, the old star fullback of the '11 and '12 teams, was on Ahearn field Saturday to root for the "fighting team."

C. H. Scholer, '14, was at the college this week. He is now engaged as an inspector of concrete road construction at Tonganoxie.

Miss Belle Lundein, '14, is principal of the high school at Plainville. Miss Mary Lemon, '14, is teaching home economics in the same school.

Miss Edna St. John, '15, who is now teaching home economics in the Wamego high school, spent the week end with her brother and friends.

A. A. Anderson, '14, was in Manhattan last Saturday to attend the football game. Mr. Anderson is located at Chanute with the Santa Fe railway.

M. E. Hartzler, '14, was in Manhattan for several days this week. Mr. Hartzler is at present engaged on valuation work for the interstate commerce commission.

Miss Frieda Stuewe, '15, visited friends and relatives here over Sunday. Miss Stuewe is having a very successful year as a teacher of home economics at Kensington, Kan.

The civil engineering department is in receipt of a letter from Fred Maybach, '11, stating that he is again working with the Santa Fe and is at present located at San Marcial, N. M.

Percy Cockerill, '15, is teaching agriculture, botany, and physics in the Valley City (N. D.) high school. He is assistant coach of athletics and senior adviser. He is also manager of the 25-acre high school farm.

Charles Hartwig, '12, who at one time played full back position on the

Aggie team, saw Saturday's game. Doctor Hartwig is practicing his profession of veterinarian in western Kansas.

G. A. Russell, '15, was a visitor at the college this week. He passed through Manhattan on his way to Ellinwood where he has been employed as inspector in the construction of a concrete bridge.

Percy Burkholder, '15, all Missouri valley guard, returned for Homecoming day. Mr. Burkholder was graduated from the animal husbandry course and is applying his training on an improved farm near Marion, Kan.

"Red" Agnew, '15, who was captain of the '14 football team, returned to Manhattan Friday for a few days'

ANNUAL COLLEGE DINNER

The annual Kansas State Agricultural college dinner will be given at noon on Friday, November 12, in the First Baptist church at Topeka. This is the second day of the meeting of the Kansas Teachers' association. All teachers, alumni, and students of the college who will be in Topeka at the time, are urged to attend. Tickets will cost 50 cents each and may be ordered from Prof. H. L. Kent, Manhattan.

stay with his many friends on college hill. Doctor Agnew graduated from the veterinary course and he is practicing at Smith Center.

Andrew Wheeler, '11, is a student in the Nashville Agricultural and Normal institute at Madison, Tenn. The school was established for the purpose of training young men and women for work as Christian teachers, nurses, and farmers in neglected localities in the south.

T. J. Harris, '13, was in town to attend the Aggie-K. U. game, and to visit with old friends. He is now located in Kansas City, Mo., where he is engaged in the advertising business.

He has a host of friends in this school who will be glad to know that he is meeting with success in his profession.

Paul Mize, '14, is teaching agriculture at Norton, being the first agricultural graduate to teach there. This year the school is launching a two year course in agriculture. The first year includes animal husbandry, horticulture, and gardening, the second year crops, soils, and farm management. President H. J. Waters' book, "The Essentials of Agriculture," is being used. In the spring the class in gardening will use about one third of a city block for its work.

CLASS OF 1895 REUNION

A letter from Mrs. Hortense (Harmann) Patten, '95, states that for some years they have been having little reunions of the class of 1895 on Labor day. This year the available ones were C. V. Holsinger and Mrs. Olive (Wilson) Holsinger, '95, Mr. and Mrs. E. H. Freeman, '95, Mr. C. D. Adams, '95, and Mrs. Adams, Roy Kellogg, '96, and Mrs. Kellogg, Mrs. Ione (Dewey) Sutherland, '93, and Miss Fannie Cress, '94.

DAVIS HELPS FORM SOCIETY OF TEACHERS OF ADVERTISING

Professor in Agricultural College Is Charter Member of New Association

H. W. Davis, associate professor of the English language in the agricultural college, is a charter member of the new National Association of Teachers of Advertising. The organization was formed at the recent convention of the Associated Advertising Clubs of the World. It comprises men in 50 leading colleges and universities of the United States.

Mr. Davis, who teaches agricultural advertising in the college, was a practical advertising man before entering the instructional field. His work here has attracted wide attention.

There are 163 co-operative cow testing associations in the United States. The first one was in Fremont, Mich., in 1905.

AGGIE MEN ARE PLEASED

STUDENTS FEEL SATISFACTION OVER SHOWING MADE BY TEAM

Washburn Game is Now Set for Friday, November 12—Alumni Express Interest in College Athletics—Many Back for Home-coming Last Saturday

Despite the defeat—19 to 7—at the hands of the Jayhawkers on Ahearn field last Saturday a feeling of general satisfaction prevails in the Aggie camp. True to the prediction of John R. Bender, the popular coach, it was a hard fought contest from beginning to end.

Play the first half was largely in university territory, but in the long run superior weight and long experience in the science of the game turned the trick. The light line of the Aggies, which at first held like a stone wall, could not withstand the onslaughts of the men of beef and brawn.

Aggie rooters fairly went wild in the first half when Randalls broke away for a sensational 85-yard run, scoring the first touchdown.

ATTENDANCE RECORD BROKEN

Weather conditions were ideal, and the crowd broke the attendance record, the count being close to 5,000. Scores of the alumni were here for Homecoming day, and several hundred high school seniors from various parts of the state were guests of the athletic board.

Guy S. Lowman, professor of physical education, has announced that the receipts were \$1,985, exclusive of the season tickets. There was a guarantee of \$800 for the university and the officials drew \$50 each for their services, so that the money taken in by no means represented clear profit.

Prior to the game enthusiasm among the students ran high. A "pep" meeting that fairly raised the roof of the auditorium was held Friday night, while a milder enthusiasm meeting took place in the chapel hour the day of the game.

The presentation of the official "K" to former heroes of college athletic events was the feature of the Friday night affair. Albert Dickens, professor of horticulture, presided. Short talks were made by J. O. Hamilton, professor of physics; E. W. Ersham of Enterprise, a coach of the "early days," "Mike" Ahearn, former coach, Coach Bender, and several of the old stars who represented the college in athletic contests. The band furnished the music.

MANY GET COLLEGE LETTER

The names of the men who were present to receive their college "K's" follow: Charles F. Hartwig, Goodland; Merrill E. Agnew, Smith Center; J. D. McCallum, Kansas City, Kan.; Joe S. Weaver, Concordia; W. A. Schuster, Pittsburgh, Pa.; A. V. Byarlay, Bala; W. H. Washington, Austin, Tex.; A. W. Ehrsam, Enterprise; L. P. Wehrle, Manhattan; E. G. Munsell, Herington; H. E. Porter, Manhattan; J. Tompkins, Topeka; Roy M. Johnson, Esbon; N. F. Enns, Imman; R. R. Cave, Manhattan; C. L. Daughters, Council Grove; G. L. Cleland, Clay Center; Ray Myers, Manhattan; Fred H. Loomis, Wichita; L. G. Haynes, Zeandale; W. K. Evans, Goodland; R. V. Christian, Manhattan; N. L. Towne, Waverly; James O. Richards, St. Joseph, Mo.; Edward C. Richards, Marshalltown, Iowa; Harry P. Richards, Topeka; Fred V. Dial, Manhattan; A. L. Burkholder, Marion; R. C. Johnston, Stockton; C. F. Blake, Glasco; J. A. Paddock, Manhattan; H. A. Forsberg, Manhattan; L. B. Pollom, Wamego; Will Samuel, Manhattan; A. F. Cassell, Beverly; E. B. Briney, Kansas City, Mo.; C. C. Jackson, Westmoreland; A. W. Seng, Lincoln Center; Delmar Akin, Manhattan; John A. Scheel, Emporia; P. E. McNall, Manhattan; G. F. Wagner, Manhattan; W. B. Cave, San Diego, Cal.; M. J. Green, Manhattan.

Several hundred rooters arrived in Manhattan late Saturday morning from Lawrence, Topeka, and intervening points.

Many alumni, former students, and others wrote letters to Coach Bender in response to his invitation to come

back for the big game. He also asked them to tell what they did in athletics, as many of the old records are lost. Here are some extracts from the letters:

FORMER PROFESSOR IS BOOSTER

Dr. N. S. Mayo, former professor in the college, now of Chicago: "Success in athletics does not depend entirely upon enthusiasm and college yell. Real success depends upon careful preparation of good material and that means hard work, backed up by hearty co-operation of all—students, faculty, coach, and team."

Louis B. Bender, '04, of Fort Barrancas, Fla., first lieutenant coast artillery corps, United States army:

"Ever since your selection for your present place was announced in THE INDUSTRIALIST, I have felt a somewhat personal interest in you, partly because we bear the same name, and partly because I was in college in Manhattan at the time you were at the University of Nebraska and know something of your prowess as an athlete. During the spring of 1903 I was a regular member of the baseball team representing the college. I remember particularly a game with your team that season at Manhattan in which we were beaten. You caught that game as I remember it and your gabby line of josh had me so buffaloed that I hardly knew whether I should face you or the man in the center of the diamond. At any rate, hits from my bat were woefully scarce that day. If you doubt it, look up the record."

BURSON LOVES THE GAME

C. J. Burson, '01, cashier Hewins State bank: "Keep it up! Some of us can come each year. I love the sport. In field day events of '97 or '98 I took first place in the standing broad jump and the one-fourth mile run."

L. G. Haynes, '09, of Leeland, Kan.: "I am certainly glad to see you upsetting the 'pepper' box. During the years 1906, 1907, 1908, and 1909 I was a member of the baseball and basketball teams. 'Mike' benched me a time or two for a display of pep. You will remember me as the lanky individual who recently visited your office."

Fred V. Dial, '97, Manhattan: "I was a charter member of the athletic board and played right half on the football squad and shortstop on the baseball team. I also took part in track events and had the honor of holding the record for high jump, pole vault, and 100-yard dash at the time I was graduated."

E. W. Coldren of the Oberlin Herald: "If nothing happens to prevent will be on hand to see the K. U. game. E. J. O'Toole, a 'K' man of about '04, will come down with me if he can get away from his store. Will sure yell our loudest for the team."

EHRSAM USED TO COACH

J. B. Ehrsam, Enterprise: "It has been a good while since I coached the Manhattan team and we certainly worked together at big odds as there was not much interest or enthusiasm shown. I have only seen the Manhattan boys play one game since I left there and that was the year they cleaned up Kansas university at Manhattan."

William E. Smith, '93, of Independence, Mo.: "I am a graduate of K. S. A. C. class of 1893 and during my time took considerable interest in athletics. My brother (Judge Fred R. Smith of Manhattan) and I were more or less indispensable to the college nine, he pitching and I playing first base."

A. Scheel, '94, Emporia: "I used to play left guard on our football eleven before the team was recognized as a college organization. We were sort of pioneers and used to play St. Marys and other such teams without losing time from school."

Grant Dewey, '90, of Chicago: "As I remember, it was my class—1890—that first challenged the pros. for a game of ball. I was selected as captain and 'caught' the game, winning something like 27 to 17, if I remember correctly. Will be pleased to receive the 'K.'"

Dr. J. W. Fields, '03, McPherson: "I was manager of and played on the first basketball team the college had. This was in the year 1902-1903."

(Concluded on Page Four)

PLANTS NEED FRESH AIR

GOOD VENTILATION IS REQUIRED FOR SUCCESSFUL WINDOW BOXES

Keep Windows Open on Opposite Side of Room, Advises Professor Ahearn—Keep Water on Radiator—Some Attractive Flowers for Indoors

Plants as well as human beings require fresh air, and it is because of not realizing this fact that many housewives and others are unsuccessful in their attempts to produce attractive window box effects, says M. F. Ahearn, associate professor of horticulture in the Kansas State Agricultural college.

This ventilation, Mr. Ahearn maintains, is best secured by keeping windows open on the opposite side of the room.

DON'T USE TOO MUCH WATER

"Another common error in indoor flower culture," said Mr. Ahearn, "is to water the plants too often. Two or three times a week will be often enough, though frequency of watering must depend on temperature and size of plant. The more roots the soil contains, the more water will be required."

"Moisture in the air of a room where flowers are grown, is a necessity. A bucket of water should be kept on register or radiator, or an open can containing water may be placed on the stove.

"Attractive window boxes may be fitted out at small cost. Both foliage and flowering plants are suitable."

"Among foliage plants best adapted for the window box are coleus, begonias—except the rex—Joseph's coat, caladiums of the variegated varieties, wandering Jew, asparagus sprengeri, and vinca major."

TRAILING PLANTS ARE PLEASING

"Trailing plants, such as smilax, in shallow boxes, may be trained on strings, to cover the sides of window frames to the top."

"For a flower window box, nothing is more satisfactory than red geraniums. Geraniums which were grown outside, may still be trimmed and transplanted."

"With red geraniums vinca alba, begonia semperflorens, Madame Saleroi, and algeratum Mexicanum may be arranged in effective combinations."

"Dwarf flowering canna, vinca alba, and verbenas, can be used for a large window."

COMBINE BEAUTY AND HARDINESS

"There is a wide selection of varieties that are good, but these are standard because they combine beauty and hardiness, and with the exception of asparagus and begonias, may be purchased at small expense."

"In making a soil mixture use one-half garden loam, one-fourth sand, and one-fourth manure or leaf mold."

"The principal drawback to an indoor window box is the inconvenience of watering without damage to rug or floor. Unless the box can be carried to the cellar, it will be necessary to provide a large pan in which to set the box."

GOULD WAGES SUCCESSFUL WAR AGAINST HOG CHOLERA

District Agent Does Important Work in Southwestern Kansas

In southwest Kansas L. H. Gould, district agricultural agent, has been waging a campaign against hog cholera which has broken out in a few localities. With the assistance of the veterinary department of the agricultural college and of the office of the state live stock sanitary commissioner, 800 affected hogs have been treated with serum in the neighborhood of Dodge City. Mr. Gould visited the herds several days after vaccination and in every case but one the treatment was found 100 per cent effective. On one farm near Wilroads, where the herd was badly infected and many of the hogs very sick when vaccinated, there were a few deaths but the majority of the hogs were saved.

A huge "K" has been painted on the standpipe overlooking the college field. The work was done under the direction of the "K" fraternity.

KANSAS SHOULD GET READY FOR TRADE FOLLOWING WAR

PRESIDENT H. J. WATERS URGES DEVELOPMENT OF INDUSTRIES THAT WILL UTILIZE AGRICULTURAL PRODUCTS—FARM AND TOWN PROGRESS WILL GO HAND IN HAND

The great agricultural region of which Kansas is a part should prepare to cope with the new trade conditions that will follow the close of the present European war, according to Dr. Henry J. Waters, president of the Kansas State Agricultural college, who delivered an address this week at the fall festival in Leavenworth.

"The nations that buy three-fourths of all we have to sell in a normal year, are now engaged in war," said Doctor Waters. "To begin with, too much of what we sell is raw product which goes to support the industries in other countries. This product exhausts our soil, timber, and mineral resources. It furnishes labor in the countries to which the products are shipped and helps support those countries in their world commerce."

"It is a fair question to raise, how much of the raw material will be wanted when this war is over? Certainly we ought to be taking over the South American and Asiatic trade, as an outlet for our manufactured and food products to offset a falling off in European trade which is bound to follow the close of the war."

DON'T SHIP LONG DISTANCES

"Agricultural development will go hand in hand with the town development. We will not make a big further advancement as long as we are shipping products long distances, and as long as we are producing in this great agricultural region raw products to support industries in other parts of this country and in other countries. We will not develop while these other countries are manufacturing goods from our raw products and selling them back to us."

"We are the best agricultural buyers in the world. This great agricultural region furnishes the best market, but we are not supplying that market."

"We must give attention to that phase of our industrial development, as an aid to our future agricultural development. Nearly nine-tenths of all the raw material used by factories of the United States comes from the farm, and the bulk of this material is produced in the agricultural region."

HOW TO INCREASE PRODUCTION

"There are two ways in which production may be quickly and greatly increased: by increasing the area under the plow and by increasing the acre yield of the land now being tilled. According to a recent report of the United States department of agriculture, only 28 per cent of the arable land of this country has yet been brought under the plow."

"It would seem, therefore, that there were possibilities enough in this direction alone to satisfy all our demands for many years to come, but we must understand that the land now in cultivation is the best land we have, is located most conveniently to markets, and is where the climate is most suitable for farming, and where the conditions of living are most satisfactory."

"The land not yet in cultivation is the land least productive of our tillable land, or is located where conditions of living are less satisfactory, or where floods or drouths are of frequent occurrence."

"The labor cost of production, then, on the land yet remaining untilled will be much greater than it is on the land now in cultivation and this land will come into use slowly and only as the demand for food increases. Society will have to pay more in the future for its food in order to force this land into use, or else the farmer will have to take less for his labor when he tills this indifferent land."

TO RAISE ACRE YIELD

"It is true that the 28 per cent that we till is tilled very indifferently and is made to produce far less than it is capable of producing. The acre yield

may be increased materially by more intelligent rotation of crops, better conservation of moisture, plowing and tilling the land at more opportune times, and the use of better seed and better live stock. Such increases cost much less than they are worth and are therefore very profitable."

"High yields are apt to be accompanied by large expenditures. Doubling the acre yield is not, as most people suppose, the means of doubling the net return to the farmers. The extent to which high production may be carried with profit is dependent largely upon the market price of the crop produced."

"Intensive farming, therefore, is not the simple and easily applied remedy for all our present ills. It is a system of farming which is adapted only to conditions where land is high and labor is cheap. It is essentially hand farming. It does not employ much farm machinery, or other labor-saving devices. It produces comparatively little live stock and has not afforded an income sufficient to provide many conveniences for the farm home."

"So long, therefore, as society is not made to suffer undue hardships on account of the high cost of living, a reasonably extensive system of agriculture is best for everybody. So long as a country can get along with farms of reasonable size, it is inadvisable to try to force upon that country an intensive type of farming. Indeed, no country has ever adopted this type of farming until forced to do so by the demands of a part of its people for an opportunity to work and of all the people for food."

WANTS NO FARM TRUSTS

"I do not wish to be understood as suggesting that the farmer establish a corner in food products, or as counselling an agricultural trust even as a means of fighting other trusts. The farmer must not loaf on his job. But he is entitled to a reasonable return on his investment of capital and labor."

"Indeed, he is entitled to a return that will class him among the business men of the world and not as a common laborer, for the average investment of land and equipment of the farmers of the United States is nearly \$8,000. He should have a return on this investment that will support his family as well as does the business man in town who conducts an enterprise of similar magnitude and importance."

"The farmer's income should be such as to enable him to contribute as much toward the support of the schools, churches, roads, and household conveniences as do the proprietors of grocery stores, drug shops, meat markets, and dry goods stores."

"The problems of production, though greatly simplified through invention and scientific discovery, are still pressing and paramount and the work yet to be done along this line is of no less importance than that which has already been accomplished. But the science of agriculture has been greatly broadened within recent years. Now, in addition to the details of production, it has to do with all phases of transporting and marketing the products and the utilizing of the income arising from the farm business in creating and supporting the right sort of family life."

"A society organized to promote agricultural science must be ready to throw the weight of its influence against all false doctrines in agriculture whether they relate to farm crops or to farm people. Such a society must help the city people to think straight along the lines affecting the welfare of the rural people as well as to protect the rural people from heresies which stand in the way of their progress."

"It must be kept clearly in mind that the blight of a rundown rural stock is even greater than is the blight of a wasted soil; for the first essential

of a permanent agriculture is an intelligent and stable rural people. Under no other condition can the soil be protected and an adequate production be maintained."

AGGIE MEN ARE PLEASED

(Concluded from Page Three)

Albert Dietz, '85, of Kansas City, Mo.: "I claim the honor of being the first person to kick a football at K. S. A. C. It was in the fall of '82 or '83 when football first started in the east or perhaps when public notice was first taken of the game in the papers. Professor Shelton lived in the east end of the old armory. He had two children, a girl of three and a boy of five. Some of his college friends had sent him a genuine pigskin from the east for the children to play with. His children were very friendly to me and asked me to play with them as I passed in going to my meals. I gathered a bunch of boys and we played on the open space south of the armory. Of course we had no rules and it was mostly a kicking and chasing game."

The game with Washburn college, to be played at Topeka, has now been set for Friday, November 12. It will be called at 3 o'clock in the afternoon. A special train will leave Topeka for Manhattan over the Union Pacific at 8:30 o'clock in the evening.

NOT TOO WARM, NOT TOO COLD, THE LITTLE HOPPERS WILL BE

New Equipment Keeps Temperature Adapted to Careful Experiments

A variation in temperature of from 50 to 100 degrees is considerable in an experiment station, where the success of many months of labor depends upon the health of small insects or delicate plants. These extreme variations constituted one of the problems which it was necessary for those in charge of the zoölogy-entomology greenhouse in the Kansas State Agricultural college to solve.

The two departments carry on extensive experimental work of great importance, which is often of so delicate a character that a repeated change in temperature would be disastrous.

The solution was found in the installation of an arrangement of thermostats and diaphragm valves which regulate the temperature of the rooms with an acute nicety. This new system, while costing little more than the ordinary equipment, according to the engineers, will pay for itself within a short time by reason of the steam which it will save. The thermostat is simply set at whatever temperature is desired.

As the room becomes too warm, the steam is automatically cut off, and as it begins to cool, the thermostat opens the valve again.

"While in the past, at this time of year, the temperature was varying from 50 to 100 degrees in 24 hours, now the variation is within five degrees of the desired temperature," says Dr. R. K. Nabours, professor of zoölogy. Doctor Nabours is carrying on extensive experimental work with grasshoppers.

This system is in addition to the recently installed apparatus—the only example of the kind for controlling the humidity and temperature of breeding cages in the same laboratory.

WILL PUT COLLEGE ANNUAL ON MODERN BUSINESS BASIS

Class of 1917 Adopts New Plan for Management of Royal Purple

A progressive plan to put the management of the college annual, the Royal Purple, on a plane with modern commercial activity has been adopted by the junior class of the Kansas State Agricultural college. An auditing committee will authorize the making of contracts, the purchase of materials, and other financial matters. The committee will consist of James T. Lardner, financial secretary of the college, N. A. Crawford, professor of industrial journalism and superintendent of printing, and three members of the class.

The system will go into effect with the book to be published in the spring of 1917. Plans for the book are soon to be made, the effort being to produce a publication of high quality at a reasonable price.

IS FOR HONOR STUDENTS

PHI KAPPA PHI, NATIONAL SCHOLARSHIP SOCIETY, COMES HERE

Chapter Will Be Installed Next Month by Edwin Erle Sparks—Professors to Be Initiated—Fraternity Stands for Unity and Democracy of Learning

Phi Kappa Phi, honorary scholarship society, will establish next month a chapter in the Kansas State Agricultural college. Word has just been received that the petition for a charter here has been granted.

The society was founded in 1897 in the University of Maine at Orono, through the efforts of Dr. A. W. Harris, then president of the university and now head of Northwestern university. The society imposes no restriction as to the course of study which a member may have taken, its purpose being to stand for "the unity and democracy of learning."

Membership is limited to students—not more than one-third of the graduate class—who have distinguished themselves by scholarship or intellectual service to their institution. In Kansas it is probable that the senior honor students in the college will be made eligible.

STRONG IN AGRICULTURAL COLLEGES

Chapters exist in a number of standard agricultural and mechanical colleges, including those of Pennsylvania, Iowa, Michigan, and Massachusetts, and in several universities.

The fraternity has already several members on the college faculty, including Dr. Henry Jackson Waters, president of the college; E. N. Wentworth, professor of animal breeding; R. I. Throckmorton, assistant professor of soils; and N. E. Olson, assistant in dairy husbandry. Members to be initiated on the occasion of the installation will comprise professors and holders of doctors' degrees.

The local officers are: president, Dr. H. J. Waters; vice-president, E. N. Wentworth; secretary; W. A. Lippscott; treasurer, J. O. Hamilton.

Dr. Edwin Erle Sparks, president of the Pennsylvania State college and president general of the fraternity, will install the chapter November 15 to 17. While here he will be the guest of Doctor and Mrs. Waters.

The other national officers of this society are: Dr. L. H. Pammel, professor of botany in the Iowa State college, secretary; C. H. Gordon, professor in the University of Tennessee, treasurer; J. S. Stevens, professor of physics in the University of Maine, registrar. The regents are Prof. C. L. Crow, University of Florida; Prof. J. A. Foord, Massachusetts Agricultural college; and Prof. J. M. Willard, Pennsylvania State college.

STATION AT DODGE CITY SHOWS MANY SORGHUMS

Superintendent Thompson Tells of Time Required for Maturity and Other Significant Facts—Farmers Are Interested

Twenty-two varieties of sorghum are being grown at the Dodge City Experiment station for the purpose of comparison and of enabling farmers in that locality to see them growing under actual farm conditions.

All of these varieties were planted on the same date in the same field and under the same conditions. Eighty-one days after planting, only one of these varieties had developed far enough so that the seed was in the milk stage. This was a sweet stemmed, white seeded variety of sorghum developed by J. K. Freed in Scott county, Kansas, and named by the United States department of agriculture "Freed Sorghum." Freed sorghum is not so leafy as some of the other varieties. It has on an average only about seven to eight leaves to the stalk. Its early maturity, however, makes it a valuable variety especially in the extreme west and northwest parts of the state.

On this same day, only four other varieties were sufficiently developed to have passed the blooming period and have the seed well formed. These varieties were dwarf milo, white milo, feterita, and red amber sorghum, the last named being a few days the latest.

"Red amber sorghum, by the way," says G. E. Thompson, superintendent of substations, "is the variety which, under average conditions, is one of the very best varieties of sweet sorghum for silage purposes that can be planted in Ford county. There was little difference in the stage of maturity of the first three varieties, but experience has shown that after reaching this stage, feterita will complete maturity a little more quickly than the other varieties, especially if the weather turns dry and hot. Ordinarily, black amber sorghum, more commonly called black cane, will mature a few days quicker than red amber, but the strain of black amber planted in this test was a large late, coarse growing kind and did not develop so quickly as usual.

"Of the other sweet sorghum varieties, western orange and black dwarf (both of which are early maturing strains of Kansas orange) were the most promising. Of these two, black dwarf is the smaller and the earlier, but the western orange is the more leafy and promises to make the biggest yield of good, well matured silage of any of the 22 varieties. This, however, is due to the wet season, because red amber often beats it. The sumac, the sourless, the 'honey drip,' and the gooseneck varieties were all too big, too coarse, and too late to be of any great value.

"Of the kafirs, the dwarf was the most nearly mature though the white-hulled variety developed by the Hays Experiment station promised to make the most seed and fodder. The standard black-hulled kafir of central Kansas is too late for the best results on upland in Ford county and the dwarf grows so short that it does not make fodder enough to satisfy the average farmer. The African kafir was making a big growth of foliage, but was heading unevenly and was also very uneven in height.

"It is interesting to look over these sorghums and see the difference in the way they grow, the difference in the number of leaves they bear, and note the time it takes them to mature. Mr. Turner, the superintendent of the farm, is always glad to have visitors and especially farmers come and look over the place. There are many things to see besides the sorghums. This year he is growing nearly twenty varieties of corn, has some registered Duroc hogs, a good herd of grade Ayrshire cows. There are also a cement and a pit silo."

DOCTOR HARMAN STUDIES PROBLEMS OF HEREDITY

Expects to Obtain Fundamental Facts in Important Scientific Subject

The current number of the biological bulletin, edited by Dr. F. R. Lillie of the University of Chicago and other prominent zoologists, contains a paper by Dr. Mary T. Harman of the zoölogy department of the college. This paper gives an account of Doctor Harman's preliminary studies of the germ cells of pedigree grasshoppers. This paper represents only the early observations in a series of studies, but indicates that some important facts of wide application concerning fundamental matters of inheritance may be learned through these studies. The publication covers in detail the report made by Doctor Harman in a paper before the American Society of Zoologists.

FRANKLIN SOCIETY WINS LYCEUM COURSE BANNER

Sells Largest Number of Tickets to Lecture Series this Year

By selling \$355.50 worth of lecture course tickets this fall, the Franklin Literary society won the banner offered by the lyceum course committee. The Hamiltons won the streamer in 1913 while the Athenians took it last year.

The plan of presenting a banner to the literary society which sells the most lyceum course tickets was instituted in the fall of 1913. The society winning the banner may choose a flag of any design.

More than \$1,800 worth of lyceum tickets were sold this fall.

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NEW SCHOOLS NOW OPEN

FARMERS AND THEIR WIVES CAN GET SPECIAL COLLEGE WORK

Extension Division Offers Five Days of Instruction in Agriculture and Home Making—Demand Exhausts Supply of Teachers

The Kansas State Agricultural college extention school season has just opened at Cherokee, Crawford county, where the first school is being held in connection with the Crawford county high school.

Wide-awake farmers and farmers' wives who are studying the business of farming and home making, have felt a need of more information on the scientific principles underlying their work, with a coordination of these with everyday farm and home practice. To meet this demand the five-day extension schools were planned. The first of these schools was given for home makers. A little later the men's extension school course in agriculture was organized.

This year the two courses are given simultaneously, thus actually placing the agricultural college for five days in a community so that the farmers and home makers may avail themselves fully of their own institution.

YEAR'S SCHEDULE IS OUT

The schedule for these schools for the year is now complete as follows: November 1-5, Cherokee; November 15-19, Eudora; November 22-26, Louisville; November 29-December 3, Lovewell; December 6-10, Leavenworth; December 13-17, Altamont; December 20-24, Mulvane; January 3-7, Quincy; January 10-14, Overbrook; January 17-21, Maize; January 24-28, Argonia; January 31-February 4, Belle Plaine; February 7-11, Miltonvale; February 21-25, Chapman; February 27-March 2, Nickerson.

In order to secure one of these schools for a community the local community must enroll a class of not less than 50 men for the course in agriculture and 25 women for the home makers' course. Each student pays a tuition fee, usually of \$1.

INSTRUCTORS ARE WELL TRAINED

The teachers of these schools are unusually well trained and practical men and women. A. S. Neale, extension dairyman in charge of the schools, is a graduate in dairying of the Ohio State university and was for years a successful dairy farmer, building up an excellent purebred herd. H. J. Bower, in charge of the soils and crops work in the schools, is a Kansas product, a graduate of the Kansas State Agricultural college. He was an assistant at the agricultural college of Ohio and for some time had charge of the crop work and farm management work in the agricultural college in Connecticut. He was district agricultural agent in southeast Kansas for almost two years and is thoroughly acquainted with soils and crop conditions throughout the state. Dr. C. A. Pyle, who has charge of the animal husbandry and veterinary work in these schools, is a graduate in animal husbandry and in veterinary medicine of the Kansas State Agricultural college. He practiced veterinary medicine near Salina in 1907 and 1908, was connected with the veterinary division of the Minnesota university from 1908 to 1910, and was professor of veterinary medicine in the San Francisco veterinary college from 1910 to 1912. He is now managing a live stock farm in Riley county and is connected with the extension division during the extension school season.

TWO DOMESTIC SCIENCE EXPERTS

The course in home making is in charge of Miss Marion P. Broughton, a Kansas woman, a graduate of Leeland Stanford Jr. university and of the Kansas State Agricultural college.

In the same line of work is Miss Winifred Fortney who has studied at Drexel institute, Philadelphia, the Pennsylvania State college, and other institutions, besides having wide practical experience in domestic science in this and other states.

The demand for extension schools for this winter has been great and had there been sufficient people to conduct them, more than twice the number scheduled could have been organized. Applications will now be considered for schools for the fall and winter of 1916 to 1917. From the inquiries for extension schools for the present season, it is anticipated the petitions for next year's work will far exceed the number of schools that can be held.

KANSAN IS FOOLISH TO PLANT TREES IN FALL

Moisture Evaporates from Pores, and Roots Are Not in Condition to Supply Water—Starvation Follows

Fall planting of trees in Kansas is a foolish and wasteful practice, according to C. A. Scott, Kansas state forester and professor in the Kansas State Agricultural college.

In some states the practice may be carried on successfully, but the falls and winters of Kansas are much too dry.

The lenticles—the small pores which may be seen on the branches of twigs of all trees—are in an active condition in the young tree. Moisture evaporates from these pores rapidly. In contrast the roots do not supply moisture in their new condition. It is impossible to take up the fine, tendril-like, feeding roots which supply the bulk of the moisture and food when the tree is being transplanted. The fine, hairlike roots are, for the most part, at the ends of the larger roots and reach far out and down, away from the tree.

Thus the tree when transplanted in the fall is in a dormant condition and does not develop these moisture seeking roots, and the loose soil prevents those which are present from functioning to advantage.

The result is that a large proportion of the trees which are transplanted in the fall starve to death during the dry, windy, freezing nights and thawing days of fall and winter.

NEW STUDY IN LITERATURE COMMENDS CONOVER'S WORK

Local English Professor Receives Special Acknowledgment from Eastern Scholar

R. W. Conover, assistant professor of the English language in the agricultural college, is honored by mention as a valuable assistant in the preparation of Prof. Fred Lewis Pattee's new book, "The History of American Literature Since 1870." Mr. Conover, who is the only person whose work is specially acknowledged in the preface of the volume, was formerly an instructor in the Pennsylvania State college, where Mr. Pattee has for many years been professor of English literature.

The new work has been highly commended as successfully filling a place hitherto unoccupied in literature study.

WIRT WILL ADDRESS MEETING OF AGRICULTURAL ENGINEERS

Local Man Is on Program of National Association to Meet in Chicago

F. A. Wirt, who is in charge of the department of farm machinery in the Kansas State Agricultural college, is on the program of the seventh annual convention of the American Association of Agricultural Engineers, which will be held in Chicago December 28 to 30. He is to speak on "Courses in Agricultural Engineering for General Students in Agriculture."

TAKE OFF YOUR RINGS

YOU DON'T HAVE TO WEAR JEWELRY TO KEEP IT SAFE

Domestic Art Expert Advises Girls Against Faddish and Conspicuous Dress—Business Men Judge Woman's Character by Her Clothes

Kansas business men assert a girl's clothes indicate her character, and that if she is a "job seeker" they are an important factor in determining whether she shall be hired or rejected. The girl with rings on her fingers and—well, perhaps, not bells on her toes, but something like that much decoration—gets scant consideration, the business men and the home economics experts agree.

"As a girl dresses in college, so will she dress in business," declares Mrs. Bessie Webb Birdsall, professor of domestic art in the Kansas State Agricultural College.

"A habit which some college girls have and which is not in good taste," said Mrs. Birdsall, "is that of wearing too much jewelry to school. It is true that some girls are afraid to leave their best jewelry in their rooms for fear of its being stolen, but surely they can leave it somewhere—do something with it so that they need not wear it to school to take care of it.

RICH SHOULD DRESS SIMPLY

"The most important thing about a girl's clothes is their number and quality with relation to her income. Girls who have plenty of money can, of course, have more clothes than girls of limited income, but that does not mean that they should be any better dressed.

"If girls who do have plenty of money would dress more simply there would not be that dissatisfaction among the other type of girls who feel that they do not have an equal chance. It is better for both types to buy plain, serviceable clothes than to buy things that are conspicuously faddish and will soon be shoddy looking and must be cast away because it is no longer fit to wear.

"Do not wear remodelled or half worn finery to school. If a girl has a pretty silk dress that is too much worn to be of use at afternoon or evening functions she had far better burn it than to wear it to school, for no other kind of clothes looks so absolutely out of place."

The ideal dress for the college girl in the fall and winter, according to this expert, is a one-piece affair made plainly and brightened with a touch of color in braid or buttons and worn with organdie collar and cuffs. This, of course, necessitates a separate big coat, but this may also be worn on semi-dress occasions.

SILK BLOUSE IS CHEAPEST

Some girls prefer the coat suit—which is indeed good—but with this a number of blouses are necessary. The buying of these blouses should be done after much planning.

The colored silk blouse is undoubtedly the cheapest a girl can buy. "O, but I can get two or three lingerie blouses for the price of one silk one," says the girl. True, but by the time one has sent her three lingerie ones to the laundry each week during their life, she will find the colored silk blouse far cheaper.

For younger girls—those in high school—middles look well; but for college girls they are out of place. Sweaters also, while almost necessary for hikes and other outdoor sports, detract greatly from a neat appearance. Besides, they crush a blouse so badly that it must be pressed every day to be kept looking half well.

LOOK OUT FOR HARMONY

"In choosing her clothes the college girl should ask herself questions something like these: Will this dress

look well with my hat? Will this waist look well with both of my skirts? Will I be able to wear this hat with my suit and also with the dress that I shall want to wear? She must remember that she can get clothes that are suited to her means and to her purpose and that are harmonious in color and in fabric as easily as she can buy hit-or-miss and have an unbearable conglomeration of miscellaneous clothes. She must also consider how long a garment will wear and look well.

"Many girls think they do not have time to spend on the so-called 'unimportant' details of clothes but when we remember that many people do judge us by our clothes and that we are seen ten times to where we are heard once, we must realize that it is no small task, neither a thankless one, to do our very best in choosing and wearing our college clothes."

TO PROMOTE BUSINESS SIDE OF AGRICULTURE

Conference at Chicago Will Take up Banking Accommodations and Standardization of Farm Products

The National Council of Farmers' Coöperative Associations has joined with the general committee of the National Conference on Marketing and Farm Credits in issuing a call for a third conference to be held in Chicago November 29 to December 2. The purpose of the conference is to frame legislation for submission to congress at its coming session, intended to provide adequate banking accommodations for farmers, to stimulate the movement for standardization of farm products for purposes of distribution, and to promote the organization of agriculture along lines which will develop the business side of the industry.

Delegates from the National Farmers' union, the National grange, the state branches of the American Society of Equity, and other organizations, individual farmers, and land owners are invited to represent the agricultural interests in this conference, while the financial interests probably will be represented by committees from the American Bankers' association and the Farm Mortgage Bankers' association. With a view to securing quick action and obviating the necessity of extended hearings in Washington, the joint committee on rural credits of the United States senate and house of representatives has been asked to attend and to participate in the proceedings.

Particular interest attaches to the active part taken by the National Council of Farmers' Coöperative Associations which recently won the fight against an increase in grain freight rates, thus saving between \$6,000,000 and \$7,000,000 annually to the grain growers of the middle west. It is considered significant that an organization so widely representative of agricultural interests is now turning its attention to legislation on rural credits.

Dr. H. J. Waters, president of the Kansas State Agricultural college, is one of the signers of the call for the conference.

PRACTICAL MEN WILL TALK TO JOURNALISM STUDENTS

Carruth, Dillon, and Reid Are Scheduled for Special Addresses

Arthur J. Carruth, Jr., managing editor of the Topeka State Journal, will give a talk on newspaper work before the students in journalism November 23.

Charles Dillon, managing editor of the Capper Publications, Topeka, will speak this fall.

Albert T. Reid, president of the Kansas Farmer company, Topeka, and well known artist, will be a speaker in December or January.

WEEK TEST NOT ENOUGH

DON'T RELY ON SEVEN DAY AVERAGE FROM DAIRY COW

O. E. Reed Shows How Commonly Accepted Method May Prove Misleading—Results of Comparison Made at College Are Presented

Too much emphasis is often placed upon the average fat content resulting from a seven day test, according to O. E. Reed, professor of dairy husbandry in the Kansas State Agricultural college.

"Often a breeder of Holstein cattle refers to an individual as being a 4 per cent tester, or he may refer to his herd sire as being from a 4 per cent family," says Professor Reed. "Perhaps he may have bought the sire on the strength of such an average test. In most cases these average tests are the average for seven days and do not truly represent the facts."

"The man who is in the market for a herd sire from a 4 per cent family desires to get a sire that will increase the fat test of his herd—not for seven days only but for the year. It does not always follow that a cow that gives an average test of 4 per cent for seven days will test 4 per cent for the year."

HERE ARE ACTUAL FIGURES

The following illustration shows how the seven day test may be misleading. Recently two cows were tested by the Kansas Agricultural Experiment station for seven days, with the following results:

	Cow No. 119	Cow No. 117
Day 1.....	4.10%	4.08%
Day 2.....	4.31	4.10
Day 3.....	4.29	4.20
Day 4.....	4.23	3.97
Day 5.....	4.21	4.16
Day 6.....	4.06	4.05
Day 7.....	4.08	3.55
Average test for seven days....	4.18	4.04
Average test for year.....	3.42	3.19

Cow No. 119, for one week, gave milk that showed a test of 4.18 per cent, but for the year previous her average test was only 3.42 per cent. Both records are official. Cow No. 117 gave milk which tested 4.04 per cent for seven days, but for a year on semi-official test her average was 3.19 per cent.

Another four-year-old recently completed a seven day test and the milk showed an average test of 4.21 per cent butter fat. For the two previous lactation periods the average butter fat test was 3.55 per cent.

SHORT COURSES WILL GIVE TRAINING IN MANY LINES

Work to Be Offered in Various Subjects Related to Engineering

Blacksmiths, millwrights, automobile men, surveyors, road overseers, and county commissioners, as well as farmers, will have an opportunity to get at the agricultural college some practical work along the line of their occupations. Special short courses in traction engines, concrete construction, shop work, and road building have been announced for the ten weeks in which farm work is usually slack—from January 4 to March 15.

Courses are intended for men who want practical knowledge but have not the opportunity to take a technical engineering course. With the extensive use of concrete and of traction engines on the farm, it is expected that a large number of farmers will take the short courses.

Experts in the college will give to the students in the short courses a series of general lectures on such subjects as rural architecture, water supply, electricity, and irrigation and drainage.

The Nebraska Experiment station has calculated the average cost of feed used in producing a 50-pound pig at \$2.11.

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In experiments carried on at the Lawes and Gilbert station in England, matters of this kind were threshed out to the very bottom. The result of 27 experiments carried on with cattle indicated that it required an average of 13 pounds of dry substance to produce one pound increase in live weight. It was found that sheep required an average of 9.2 pounds of dry substance to produce a pound of gain, while the hog required but 4.8 pounds of dry substance to produce one pound of increased weight. To determine this result 33 experiments were carried on with pigs, and 104 animals were fed out for an average of 58 days.

It is little to be wondered at that the hog is known as the mortgage lifter because, according to these records, he is able to make one pound of gain on just about one-third the amount of dry food as a steer. Of course, it must be remembered that cattle can utilize a much cheaper form of food than hogs. Indeed, reasonable gains can be made with the former on foods that would be wholly unfit for hogs, so that in making comparisons the conclusion cannot be reached that the hog is always an economical meat maker and the steer always an extravagant producer.—Farmer and Stockman.

Poisonous and non-poisonous varieties of mushrooms are about equal in number, according to the United States department of agriculture. Seventy-two are classified as poisonous, 87 as edible.

The first graduate law school for women in America was started last week in Cambridge, Mass., with an enrolment of twenty-five graduates from Radcliffe, Barnard, Bryn Mawr, and Smith colleges.—Daily Missourian.

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PIG IS ECONOMICAL

Every experienced stockman knows that the pig comes first in a list of farm animals as an economical meat maker. This knowledge, in most cases, comes from practical experience rather than from the study of records made in experimental work. In connection with such problems as this, facts and figures are always more or less interesting, and those that are available show strongly in favor of the pig.

In experiments carried on at the Lawes and Gilbert station in England, matters of this kind were threshed out to the very bottom. The result of 27 experiments carried on with cattle indicated that it required an average of 13 pounds of dry substance to produce one pound increase in live weight. It was found that sheep required an average of 9.2 pounds of dry substance to produce a pound of gain, while the hog required but 4.8 pounds of dry substance to produce one pound of increased weight. To determine this result 33 experiments were carried on with pigs, and 104 animals were fed out for an average of 58 days.

It is little to be wondered at that the hog is known as the mortgage lifter because, according to these records, he is able to make one pound of gain on just about one-third the amount of dry food as a steer. Of course, it must be remembered that cattle can utilize a much cheaper form of food than hogs. Indeed, reasonable gains can be made with the former on foods that would be wholly unfit for hogs, so that in making comparisons the conclusion cannot be reached that the hog is always an economical meat maker and the steer always an extravagant producer.—Farmer and Stockman.

on Wednesday last by Doctor McClintock of Topeka, assisted by Doctor Roberts.

The librarian and assistant are rejoicing in the possession of a new Hammond typewriter, especially suited to the printing of catalogue cards. The president's office succeeds to the Remington machine heretofore used in the library.

Professor Lantz and family and Professor White are among the 20 or more people who have started a co-operative boarding club in the city. Professor White acts as secretary. The experiment will be watched with interest by hundreds of small families for whom the hired girl question is an unsolved puzzle.

The traditional propensity to mischief on Halloween was utilized to some extent by students last week. The chief so-called joke was in dragging one of the three-inch guns to the top of Blumont, which overlooks the city, and firing several times about 3 o'clock in the morning. It seems pitiful that students, as well as other young people, cannot throw off the spell of this relic of middle age superstitions.

Poisonous and non-poisonous varieties of mushrooms are about equal in number, according to the United States department of agriculture. Seventy-two are classified as poisonous, 87 as edible.

The first graduate law school for women in America was started last week in Cambridge, Mass., with an enrolment of twenty-five graduates from Radcliffe, Barnard, Bryn Mawr, and Smith colleges.—Daily Missourian.

AMONG THE ALUMNI

Charles Lyness, '12, is teaching in the New Richland (Minn.) high school.

Miss Crystal Kelly, '15, is teaching home economics in the Coldwater high school.

Miss Edna Gulick, '15, is teaching home economics in the high school at Dexter.

Miss Claire Hoaglin, '13, is attending the State Normal school, San Diego, Cal.

Miss Alta Roberts, '14, is teaching home economics in the high school at Lenox, Iowa.

T. E. Nafziger, '11, is director of manual training and agriculture in the high school at McPherson.

A. T. Coith, '15, writes that he is enjoying the teaching of manual training in the high school at Dodge City.

Frank Coffman, '14, and Homer McNamara, '14, are working for the government in the Philippine Islands.

Gilbert Cleland, '14, is in charge of the agricultural department of the Clay county high school at Clay Center.

Ralph Hawkins, '14, is managing a farm at Marysville. He is working into the dairy business with Holsteins.

E. G. Shadd, '14, is making a decided success as instructor in agriculture in the high school at New London, Minn.

Miss Nelle F. Longenecker, '15, writes that she is enjoying her teaching in home economics in the schools of Little River.

Clyde Williams, '11, Miss Lulu Stallman, '12, and H. B. Matthews, '12, are all working in Normal university at Las Vegas, N. M.

H. E. Rose, '15, is principal of the Sylvia high school. He has charge also of the classes in science. Miss Florence Davis, '14, is teaching home economics and English in the school.

Miss Laura Belle Falkenrich, '15, who is principal of the school at St. George, visited with her parents during the week-end and attended the Webster-Eurodelphian program Saturday evening.

John M. May, '10, is highly successful as an instructor in the state Normal school at River Falls, Wis. Miss Effie Adams, '11, is doing equally as well in teaching home economics in the same school.

James R. Coxen, '07, who is head of the department of manual training in the Southwest Texas State Normal school at San Marcos, writes that a large number of college people are in Texas. Miss Grace Berry, '10, and Miss Lillian Baker, '14, are both teaching in the normal school, and Mr. H. H. Coxen, '15, in the high school. A number of other alumni are in Austin and San Antonio.

MARRIAGES

BEATTY-MARTINSON

Miss Dorothy Beatty and Mr. George Martinson, '01, were married in Los Angeles, Cal., on Wednesday, October 25. Mr. Martinson holds arts and law degrees from Leland Stanford Jr. university and is practicing law in San Francisco.

HARRIS-BRUNKER

Miss Grace Harris and Mr. William A. Brunker, '11, were married Wednesday, October 27, at the home of the bride's parents, Mr. and Mrs. Ezekiel Harris, at Garrison. The ceremony was performed by the Rev. J. L. Mitchell. Mr. and Mrs. Brunker left for a western trip and will be at home after December 1 at Wichita.

Mr. Brunker is a son of Mr. Henry Brunker of Manhattan. He has been since graduation from college a salesman for the J. I. Case Threshing Machine company. Mrs. Brunker is a member of a well-known family in Garrison.

ALUMNI ARE RESPONDING

Alumni of the college are still responding to the letter sent out by the

association requesting \$1 from each alumnus for expenses of the organization and the pushing of the mill tax proposition for the state institutions.

G. W. Wildin, '92, mechanical superintendent of the New York, New Haven, and Hartford railway, writes: "I have received from the association request for \$1 for the extension of its usefulness in connection with the college, and I take great pleasure in inclosing money order for same herewith. If the association requires more, kindly command me."

W. P. Shuler, '10, professor in the Oklahoma Agricultural and Mechanical college, commends the movement heartily and incloses the amount requested. "I was glad to receive the circular letter," he writes, "and I am certainly in favor of the movement. Kansas needs a better way of supporting her institutions, and this seems to be the way out."

KANSAS AGGIE BAND TO PARADE TOPEKA STREETS

Hundreds of Rooters Will Go to Capital for Annual Football Game with Washburn College

The Aggies will fairly take Topeka by storm on the day of the annual football clash with Washburn college, November 13. The big band of 70 pieces will parade the streets, and the contingent of several hundred rooters that will go down by special train, will be much in evidence.

"The Washburn-Aggie contest will be a battle royal," said John R. Bender, coach, yesterday. "We look for the game of our lives. Odds will slightly favor Washburn because of the fact that the contest will be on the home grounds. We expect to take our entire squad of 30 men who have played throughout the season as an appreciation of their work."

"Right now, however, we are not worrying about Washburn. We look for a stiff battle Saturday with Friends' university. The Quakers have lost but once this season and that because of overconfidence.

"Captain Skinner will be out of the game and possibly the rest of the season because of a broken shoulder. Sullivan, quarter, has a bad shoulder and a 'game' knee, and will be replaced by Slattery."

USES BAKING POWDER FOR YEAST IN MAKING BREAD

Milling Industry Department Makes Experiments in Co-operation with National Scientific Society

The department of milling industry in the Kansas State Agricultural college, is making valuable experiments in the technology of milling and bread baking, one of which is interesting because of the fact that baking powder is used in the baking of light bread instead of yeast.

These experiments are carried on under the supervision of L. A. Fitz, professor of milling industry, in co-operation with the Milling and Baking Technology Society of the United States.

This society will meet in Washington, D. C., November 17, and data on the analysis of the chemical composition of wheat flour made from the various grades of wheat will be investigated by experts; also data on the bread baked from different grades of flour with baking powders instead of yeast.

FARM BUREAU TAKES MEASURES AGAINST OUTBREAK OF CHOLERA

Atchison County Men Co-operate in Campaign to Stamp Out Disease

Hog cholera has been reported from three neighborhoods in Atchison county. The farm bureau and the agricultural agent, Charles H. Taylor, are making every effort to confine these outbreaks, and farmers have been urged to quarantine their places, burn dead hogs, and clean up thoroughly, in the meanwhile using serum on all well hogs in infected herds. A strenuous effort is being made by this farm bureau to get immediate information of any outbreaks, and there is splendid co-operation on the part of all bureau members as well as non-members in the county.

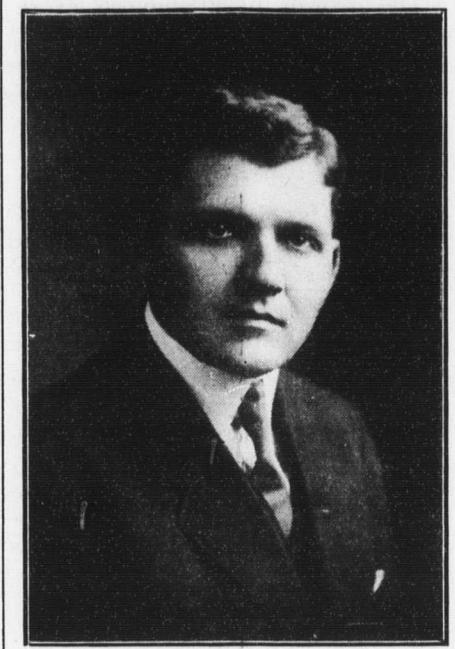
TENANCY WILL BE ISSUE

SHIFTING POPULATION PROBLEM TO COME FORWARD IN POLITICS

Dean Edward C. Johnson Discusses Suggested Remedies for Undesirable Farm Condition—How Other Nations Have Answered Question

The tenant problem will soon become one of the liveliest political and economic issues in the United States, in the belief of Edward C. Johnson, dean of extension, who addressed the students of the Kansas State Agricultural college Tuesday.

The shifting farm population of the present times, Mr. Johnson pointed out, is due largely to tenancy. He cited other countries to show, however, that it is not necessary for tenants to move frequently. He emphasized the



DEAN E. C. JOHNSON

fact that shifting of population will continue under the conditions now existing in this country, and urged that effective measures be taken to put an end to this.

Dean Johnson outlined the principal remedies that have been proposed, and advised careful consideration of them all. He did not express a preference among them.

FEW STAY FIVE YEARS

"Recent investigations have disclosed the fact," said Dean Johnson, "that nearly 80 per cent of the tenants remain in a given community less than five years and 43.5 per cent remain on the same farm two years or less. The reasons for this tremendous shifting of tenants are many. Often the land is so poor that it cannot support a tenant and pay interest on the present capitalization and a tenant trying one year at a place to make a living and finding that he cannot secure it, of course will move to another place. In other cases the cropping system is so arranged that the labor cannot be distributed throughout the year, the landlord demanding that the land be planted to one or perhaps two main money crops giving no opportunity for diversification. Again, a good tenant will fix up a place and after it has reached a certain point of efficiency, the landlord will raise the rent. Then, too, some people are naturally shiftless and move from point to point in the hope that luck will be better next time. Whichever one of these reasons is fundamental for any community, true it is that in every community where much of the land is farmed by tenants, the shifting of the population has been going on with great rapidity.

SOME FAVOR LONG LEASES

"Now is there anything that can be done to stop this excessive movement of the people from place to place? On this point there are many opinions and many points of view. Some believe that a system of long term leases in which a tenant is guaranteed a farm for five to 10 years will overcome his inclination to move and will give him ambition to improve the farm on which he lives, to co-operate with his neighbor and to take part in community activities.

"Others believe that the best way to prevent the shifting is to adopt a system of tenant farming in which the landlord and the tenant are working in

partnership, the landlord furnishing not only the land, but also a part of the capital invested in live stock. A third group maintains that the most effective method to prevent the shifting is to devise a system of farm management in which there will be an inducement for the tenant to grow live stock. It is admitted of course that the more live stock a tenant has on a place, the more he will want to remain on that place, not only because he can farm more profitably with live stock than without but also because it is difficult to move with much stock on hand.

EXPERTS CANNOT AGREE

"Two other methods for slowing up the moving tendency in a tenant population, have been proposed by authorities of international reputation, members of the commission on industrial relations. Even this commission could not agree, but adopted a majority and a minority report. The majority report favors a system similar to that in vogue in England. Through the land laws of England any tenant living on a place has the right to make necessary improvements in buildings, drainage systems, fences, or the soil, and when he is ready to leave the land, the landlord must reimburse him for the value of the improvements made.

"On the other hand, if the tenant gives no consideration to the upkeep of the place or to maintaining the fertility of the soil, the landlord can collect from the tenant sufficient to cover the value of the fertility that has been used or of equipment allowed to deteriorate. Any disagreements between the landlord and tenant with regard to the value of their improvements are settled by representatives of the government. The result has been that the tenants have built up the farms on which they live, remain from year to year and become active in the community life. The majority of the commission believes that we ought to have similar laws in the United States with national and state land commissions to see that these laws are enforced.

MINORITY WANTS IRISH PLAN

"The minority, on the other hand, believes that measures ought to be taken similar to those taken in Ireland through the enactment of the so-called Irish land bill. By this a royal commission was appointed with power to appraise the estates owned by absentee landlords at real and not speculative values and the government was authorized to buy the land at the appraised value plus a 12 per cent bonus to the owner and to cut the land up into small parcels sell it to worthy farm tenants. Seventy years is allowed for payment, the deferred payments bearing 3 per cent interest. In addition to this, the government made personal loans to tenants sufficient to cover the cost of stock and farm implements, these also payable in small annual amounts bearing a low rate of interest."

ANNUAL COUNTY FAIR AT COLLEGE TO BE ELABORATE

Societies Make Special Preparations for Big Fun-Producing Event

Elaborate preparations are being made for the Young Women's Christian association county fair which will be held in Nichols gymnasium December 4.

The literary societies, the sororities, and the fraternities are already making plans for the event, which will be the most pretentious affair of the kind ever held on the campus. Hundreds of students and townspeople will attend.

Some of the fraternities will present unique vaudeville stunts. There will be the usual booths for candy, fancy work, ice cream cones, Japanese art, and other articles.

FIST BALL IS NEW GAME FOR LOCAL COLLEGE GIRL

Sport Is Described as Cross Between Tennis and Volley Ball

Fist ball, a cross between tennis and volleyball, is being tried out in the physical training departments here. This game, popular in the east, was introduced here by Miss Ethel M. Loring, instructor in physical education. Practice is now being held and the interclass games will be held this fall,

MORE EARN THEIR WAY

PROPORTION OF SELF-SUPPORTING STUDENTS BREAKS RECORD

Forty Per Cent Depend Entirely on Their Own Efforts—Majority of Young Men Are in this Class—Many Come from Farms

More students in the Kansas State Agricultural college are now supporting themselves than at any previous time in the history of the institution. Fifty-five per cent—5 per cent more than was the case last year—are earning their way wholly or in part, and of these 40 per cent are entirely self supporting.

Of the men students 55 per cent support themselves completely, while 17 per cent more do this in part, leaving only 28 per cent that rely entirely on their parents for their income. As is always the case, the proportion of women students who support themselves is lower. Twenty-four per cent are entirely self-supporting and 9 per cent more are partly self-supporting.

More than 100 occupations are represented among the parents of the college students, though the fathers of nearly half of those who gave data on the subject are farmers. Of the 2,266 students enrolled in the fall term 316 did not state their parents' occupations. A total of 893 of the remainder said their fathers were farmers, while 60 more referred to their fathers as ranchmen. "Retired" was the classification given by 182. No other occupation furnished so many as a hundred, merchants being the nearest with 91.

MANY VOCATIONS REPRESENTED

The full list of occupations with the number engaged in each follows: farmer, 893; ranchman, 60; retired, 182; librarian, 1; nurse, 2; jeweler, 6; auditor, 2; superintendent of hospital, 1; secretary and treasurer, 6; letter carrier, 12; postmaster, 4; boarding and rooming house keeper, 84; laundryman, 2; lawyer, 25; gardener, 4; baker, 32; mechanic, 12; surveyor, 1; teacher, 22; in civil service, 2; cook, 5; merchant, 91; liveryman, 4; lumberman, 15; druggist, 13; dentist, 3; postal clerk, 9; barber, 1; operator, 4; in mining industry, 3; business man, 2; butcher, 2; blacksmith, 4; plasterer, 1; telegraph manager, 2; electrician, 2; government employee, 7; college president, 1; clerk, 18; coppersmith, 1; dairyman, 9; contractor, 26; auctioneer, 1; driller, 2; carpenter, 21; superintendent packing house, 1; creameryman, 2; bookkeeper, 4; foreman, 7; motorman, 1; hardware dealer, 8; minister, 27; agent, 8; live stock dealer, 14; traveling salesman, 29; real estate, 29; insurance agent, 23; abstractor, 3; harness maker, 3; miller, 10; photographer, 3; reporter, 1; engineer, 20; editor, 7; oil and gas producer, 3; millwright, 1; laborer, 27; garage man, 4; paper hanger, 2; stenographer, 2; janitor, 1; broker, 5; physician, 25; hotel proprietor, 10; chiropractor, 1; plumber, 1; college dean, 2; matron of college, 1; transfer line, 2; fraternal organizer, 2; stone mason, 2; cigar maker, 1; poultryman, 1; in extension work, 5; undertaker, 3; book binder, 1; car dealer, 1; dressmaker, 2; manufacturer, 4; weaver, 1; architect, 1; grain dealer, 9; coal dealer, 2; florist, 3; railway cooper, 1; railway superintendent, 1; nurseryman, 2; county and city official, 11; shoemaker, 2; vendor, 1; missionary, 3; ice dealer, 2; cashier, 3; proprietor of repair shop, 1.

TEACHING AGRICULTURE WILL BE PRESIDENT WATERS' THEME

Address Will Be Given Before Texas Teachers' Association

Dr. H. J. Waters, president of the agricultural college, will make one of the principal addresses at the meeting of the Texas Teachers' association Thursday, November 25. His subject will be, "Teaching Agriculture." Many alumni of the college are teaching in Texas and will hear Doctor Waters.

The college barn lots have been paved with concrete and are now surrounded by a cement wall. This will make more accurate experiments in feeding possible.

CONTINUOUS CROPPING IS REDUCING KANSAS YIELDS

AMOUNT OF DECAYING MATTER IN SOIL IS BEING CUT DOWN, SAYS H. J. BOWER—HOW MORE PRODUCTIVE CONDITIONS MAY BE RESTORED

The average crop yields of Kansas are becoming low chiefly because the humus content of the soil is being greatly reduced by continuous cropping and cultivation, says H. J. Bower, soils specialist in the division of college extension, Kansas State Agricultural college.

"Profitable crop growing is largely dependent upon a high per cent of active humus, or, in other words, a high per cent of decaying organic matter, such as roots, straw, leaves, and manure in the soil," explains Mr. Bower. "Humus consists of this vegetable and animal matter which has only partly decayed. In this condition it has lost its original structure, and in most instances has been changed into a black, paintlike substance that coats the soil grains and gives the black color to the soil."

"One usually thinks of humus in its relation to the restoration of an impoverished soil to a productive state. The primary use of humus is to furnish plant food directly to growing plants. Nitrogen is the most important plant food, and humus contains this element in large quantities.

HOW FOOD IS SUPPLIED

"The other plant foods are furnished in two ways. First, the ash content or mineral plant foods contained in the plant residues, such as dead roots, straw, and cornstalks, are readily made available and used by the growing plants. Second, humus in the soil may act as an acid by combining with mineral elements that form compounds which may decompose and become available to plants.

"The secondary use of humus is to improve the physical condition or strengthen the skeleton of the soil. The skeleton of the soil consists of minute fragments of rock from which the soil has been derived. These fragments of rock are known as soil particles, which are like coarse sand, down to finer particles, like silt and clay, that can only be seen by the aid of a microscope.

"Humus coats the soil particles and aids them to adhere to each other, so that instead of the soil's being made up of separate particles, sponge-like groups or clusters are formed, which give good tilth, or structure. This sponge-like character or crumb structure favors the movement of air and water through the soil, and makes tillage easier.

TILLAGE IS NOW HARDER

"Where tillage was comparatively easy thirty or forty years ago, farmers are now compelled to use more and more power to turn the soil, and the soil gives smaller returns because the supply of humus is being exhausted. The farmer calls a soil with low humus content 'dead,' as he has witnessed the life processes and the strength gradually drained with each year's tillage operations.

"When humus is deeply and abundantly distributed it acts as parting planes between the soil particles, which prevents them from running together when the soil is long oversaturated with water and when shrinkage comes in time of drought.

"By reason of this sponge-like character of a soil rich in humus, it has the power of absorbing large quantities of soil water. This is then used as needed during a period of light rainfall.

"Profitable farm practices that will tend to keep up the humus supply are: first, the use of farm manure in a good system of crop rotation; second, the maintenance of pasture and meadows; third, the use of green manure.

"No form of organic matter for incorporation in the soil is so valuable as barnyard manure when applied regularly on fields in combination with a rotation of crops. It is so well

supplied with decaying organisms that it decays very rapidly, and at the same time hastens the decay of the plant residues in the soil. Any plant material that rots in the soil adds to the productive power of the land, but plants differ in value as makers of humus.

LEGUMES NEEDED IN ROTATION

"That the legumes can use bacteria in the soil to help transform the nitrogen of the air into plant life, which later may be used to support animal life, is of the greatest importance in a permanent system of farming. By returning the fresh manure from animals to the fields, and by the decay of the manure and the roots in the soil, the store of nitrogen and humus thus gained can be added to the soil's supply for future crops. The legumes, therefore, must occupy a prominent place in every economical crop rotation.

"The important advantage of growing grasses in a rotation is that through the immense number of grass roots closely threaded in among the soil particles, the bunching of the soil particles is greatly facilitated. Virgin prairie soils often contain 6 to 8 per cent of organic matter, largely derived from the fibrous roots of the grasses. The character of the sod is the most faithful index of the soil's condition in every grass-growing region.

"Green manuring is usually not advisable on live stock farms, as the crops which are most valuable for this purpose are also of great value as feeds. However, maximum amounts of manure are seldom made even on live stock farms, and in most instances other means of adding humus must be had.

"Legume crops, such as red clover, sweet clover, and cow peas, should be the principal source of green manures upon the live stock farms in the grain belt. As it usually is too expensive to devote an entire season to the growing of green manure, catch crops such as cow peas may be used to great advantage for green-manure purposes.

"If more interest were taken in plowing under weeds, cornstalks, and other waste of the farm it would be a great step toward humus maintenance."

TO BUILD NEW BRIDGE FOR COST OF REPAIRS

Kearny County to Erect Concrete Structure Across Arkansas River—Other Engineering Activities

After being shown that in 15 years \$20,000, enough money to cover the cost of a concrete bridge, had been spent on an old wooden structure over the Arkansas river at Lakin, 200 taxpayers petitioned for a new bridge and bids will be opened in January by the Kearny county board.

For many years the wooden bridge, which is 700 feet long, has extended across the river. W. S. Gearhart, state highway engineer, looked up the records and found that repairs in the 15 years has cost \$18,000, while the county lost \$2,000 in a damage suit due to the condition of the structure. Even after all the repairs, it was not safe.

Cloud county has also reported to Mr. Gearhart that it will construct eight new concrete bridges at a total cost of \$9,000. Jewell county will build 15 steel and concrete bridges.

As a result of a good roads meeting at Anthony at which Mr. Gearhart spoke, Harper county has decided on two good roads days next Tuesday and Wednesday on which special work will be done on its roads. The county board has decided to erect hereafter only concrete bridges. Much interest also is being taken in drainage in the county and in paving in the town of Anthony.

FARMERS COME TO HEAR

ATTENDANCE AT INSTITUTES IN KANSAS SHOWS MARKED INCREASE

Lecturers on Home Economics Make Appeal to Women—Meetings Are Held in All Parts of State—Many Specialists Are on Programs

A marked increase in attendance in farmers' institutes this season is reported by Edward C. Johnson, dean of extension in the Kansas State Agricultural college. Institutes are being held in all parts of the state, and in a large proportion of them home economics, as well as agriculture, is used as a subject for discussion, thus making the meetings appeal not only to the farmers themselves, but to their wives and daughters. Specialists in a wide variety of other subjects are on the programs.

The growth in attendance at the meetings is in line with the development of the institute system in the state from the beginning. Every year has shown a gain, and in the last five years the increase has been phenomenal.

The list of speakers and institute meetings for the rest of November and the first few days of December follows:

HERE IS CURRENT LIST

Carl P. Thompson and Miss Stella Mather—Linn, November 8; Barnes, November 9; Blue Rapids, November 10-11; Junction City, November 12-13.

P. E. Crabtree, H. J. Umberger, and domestic science lecturer, first day; Geo. O. Greene and G. E. Thompson, second day—Wellington, November 11-12.

Geo. O. Greene and G. E. Thompson, first day; J. C. Holmes and H. J. Umberger, second day—South Haven, November 11-12.

P. E. Crabtree and J. C. Holmes—Cedarvale, November 8; Dexter, November 9.

P. E. Crabtree and domestic science lecturer—Geuda Springs, November 10; Augusta, November 12; Potwin, November 13.

George O. Greene and G. E. Thompson—Anthony, November 8-9; Mulvane, November 10; Whitewater, November 13.

Ross M. Sherwood and Miss Alice Poulter—Springhill, November 8; Black Jack, November 9; Pomona, November 10; Garnett, November 12-13.

W. S. Gearhart and Dr. C. A. Pyle—Burlington, November 8-9; Wakarusa, November 10; Dover, November 11-12; Perry, November 13.

Carl G. Elling and Miss Louise Caldwell—Ottawa, November 8-9; Fairview schoolhouse, November 10; Meriden, November 11.

SPEAK IN SOUTHERN KANSAS

D. E. Lewis and Miss Louise Caldwell—Canton, November 22; McPherson, November 23-24; Wichita, November 26-27; Clearwater, November 29; Viola, November 30.

Albert Dickens and Miss Louise Caldwell—Hackney, December 1-2; Burns, December 3; Florence, December 4.

P. E. Crabtree and Miss Mary Hoover—Lewis, November 22; Offerle, November 23; Great Bend, November 26-27; Lyons, November 29-30; Marquette, December 1; Lindsborg, December 2; Inman, December 3-4.

George O. Greene and Miss Alice Poulter—Burlingame, November 22; Cottonwood Falls, November 23-24; Madison, November 25; Virgil, November 26-27; Lafontaine, November 30; Elk City, December 1.

Carl G. Elling and Miss Alice Poulter—Chetopa, December 2; Independence, December 3.

Carl P. Thompson and Miss Stella Mather—Ashland, November 23-24; Coldwater, November 25-26; Coats, November 27; Sawyer, November 29; Isabel, November 30; Rago, December 2.

Ross M. Sherwood and H. T. Nielsen—Concordia, November 29-30; Scandia, December 2; Belleville, December 3-4.

Carl G. Elling, C. K. Peck, and George S. Hine—Parker, November 22; Cadmus, November 23; Mt. Carmel, November 24; LaCygne, November 26-27.

TEACHERS MEET AGAIN

MANY FACULTY MEMBERS TO GO TO ANNUAL STATE CONVENTION

Educational Experts from Every Part of Union Are on Program—Capital City Arranges Musical Entertainment—Agricultural Professors Head Round Tables

A big proportion of the faculty of the Kansas State Agricultural college will, as usual, attend the annual convention of the Kansas State Teachers' association. It is to be held in Topeka next Thursday, Friday, and Saturday. Prof. H. L. Kent, principal of the school of agriculture, is making a large number of advance enrolments in the association and is also arranging for the college banquet, which is to be held in the First Baptist church in Topeka Friday noon.

Experts in education from all parts of the United States will speak at the sessions of the association. Among them will be Dr. A. E. Winship of Boston, editor of the Journal of Education; Mrs. Cora Wilson Stewart, chairman of the illiteracy committee of Kentucky; Dr. Peter W. Dykema, professor of music in the university of Wisconsin; Henry Turner Bailey of Boston, editor of the School Arts Magazine; William McAndrew, assistant superintendent of the New York City schools; and Dr. Mary E. Woolley, president of Mount Holyoke college.

MISS KOENEN TO SING

A special musical entertainment has been provided for Friday evening by the Topeka Commercial club with the assistance of the teachers of the city schools. There will be a song recital with Miss Tillie Koenen, the well known Dutch contralto, as soloist and 1,000 pupils of the Topeka grade schools as the chorus. Miss Mildred Hazelrigg, supervisor of music in the Topeka schools, will be the conductor and Miss Minnie McMurtie, accompanist. The second part of the program will comprise a concert by Miss Koenen with Horace Whitehouse, dean of fine arts in Washburn college, as organist.

A number of agricultural college people have prominent parts on the program. Dr. H. J. Waters, president of the college, is a member of the board of directors of the association. J. W. Zahmey of Manhattan, a member of the college class of 1909, is chairman of the agriculture round table. At this round table President Waters will make the principal address on "What the Farmers of the Orient Can Teach Us." H. F. Roberts, professor of botany in the college, heads the biology round table. Dr. John V. Cortelyou, professor of German, is chairman of the German round table. Miss Frances L. Brown, director of home economics in the division of college extension, is chairman of the household arts round table, on the program of which are Mrs. Mary Pierce VanZile, dean of home economics; Miss Margaret Haggart, professor of domestic science; and Miss Marion P. Broughton, institute lecturer on home economics.

FOSTER WILL DISCUSS UNIQUE COLLEGE PLANS

President of Western Institution to Address Faculty and Students Monday—Is Well-Known Author

Dr. William Trufant Foster, president of Reed college, Portland, Ore., will address the faculty of the division of general science and the students in the department of education in the old chapel at 3:30 o'clock Monday afternoon. He will discuss his work at Reed college, where he has established systems of evaluation of student work different from any undertaken in any other institution and has also installed a unique social life.

Doctor Foster received his training in Harvard and Columbia universities. He was formerly professor of English and argumentation in Bowdoin college. He is author of several works on argumentation and on sociology.

While here Doctor Foster will be the guest of Prof. and Mrs. E. L. Holton. He and Mr. Holton were in college together.

J. W. McColloch, C. K. Peck, and George S. Hine—Prescott, November 29; Blue Mound, November 30; Pleasanton, December 1-2; Mound City, December 3-4.

LEARN DIFFERENCES IN CLASSES OF CHICKENS

Breed Distinctions Are Less Important to Kansas Farmer—No Preference Here as to Color of Eggs

What breed of chickens to use on the farm, is an ever recurring question in the correspondence of the poultry department of the Kansas State Agricultural college. So far as those qualities that are important on the farm are concerned, the principal distinctions are between classes rather than breeds.

The Mediterranean breeds are small, sprightly, very nervous in disposition, are good rustlers, can fly over any fence that is likely to be constructed, are clean legged, and are good layers of pure white eggs of fair size. The Mediterranean class includes leghorns, Anconas, Andalusians, Spanish, and Minorcas. Of these, the leghorns are the most popular among the breeds, and the single comb whites are the most popular of the leghorns.

In the Asiatic class are found birds of the opposite extreme in almost every characteristic. They are the largest of the chickens, are slow maturing, and are very heavily and loosely feathered over the body and down the legs. They are rather poor layers of dark brown eggs of good size. The breeds that comprise the Asiatic class are the brahmans, the cochin, and the Langshans.

About half way between the Mediterranean and Asiatic breeds in most characteristics are the American and the English breeds. They are fair layers of light brown eggs, and while not so difficult to control as the leghorns, are very much more active than the Asiatics and usually are more desirable for the general farm. Good strains of the American breeds lay nearly as well as the Mediterraneans, and at the same time furnish a better carcass for the home table.

The American breeds which are common on farms are the Plymouth rocks, the Rhode Island reds, and the wyandottes. The American breeds which are seldom seen any more are the buckeyes, the javas, and the Dominiques. The only English breed that has had any large degree of popularity in this country is the Orpington.

The real choice to be made in the way of a breed for the farm, usually lies between one of the American breeds or the Orpingtons on the one hand, and a Mediterranean breed on the other. As a general thing, the leghorns will probably lay more eggs the year round than the American breeds. The question to be decided is whether this fact offsets the difficulty of their control, and the fact that their carcasses are not generally considered so desirable.

Within the American class the choice is largely one of personal taste. The fact that the carcasses with light pin feathers are being demanded more and more by the best markets, however, is having more and more influence in favor of the white and buff varieties. On the other hand, it is generally understood that where coyotes are still about, the white varieties are more conspicuous and more easily picked up.

Kansas is not so situated that the color of eggs makes any difference in the market price. In the east, producers find that brown eggs are more profitable for the Boston market, while New York prefers white eggs. It is doubtful whether this distinction as to color ever makes its appearance on the Kansas markets.

In the preparing of eggs for market the greatest step in advance that can be made is in educating the farmer as to the importance of keeping the male birds away from the laying flock during the summer months, so that infertile eggs may be produced.

Courses in journalism are to be offered in Vassar college, the first women's college in the country to present the subject.

THE KANSAS INDUSTRIALIST

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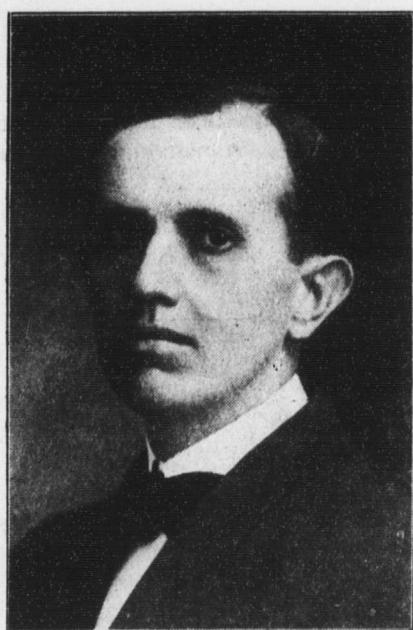
RANK HIGH AS TEACHERS

ALUMNI OF COLLEGE COMMENDED BY SCHOOL SUPERINTENDENTS

Prof. Edwin L. Holton Obtains Practical Information in Unique Questionnaire—Annual Salaries of 227 Graduates Total \$236,695

Almost 70 per cent of the teachers placed by the department of education of the Kansas State Agricultural college are regarded by their superintendents as strong or superior, according to information received by Edwin L. Holton, professor of education, through a questionnaire recently sent out.

Professor Holton sent a request for information to each school in which is teaching a student sent out by the de-



EDWIN L. HOLTON

partment in the last four years, the period in which he has had charge of the placing of college students who want to teach. The questionnaire, which is on a small card, asks for the subjects taught, the salary, success as a teacher—whether poor, fair, strong, or superior—weak points, and strong points. The cards when returned are filed in Professor Holton's office.

A total of 167 replies have been received. In these four teachers are classified as poor, 48 as fair, 89 as strong, and 26 as superior.

The annual salaries of these 167 teachers, plus 60 others on whom the department has definite salary data, amount to \$236,695, or something more than \$1,000 each.

WILL HELP COLLEGE AND ALUMNI

The investigation thus undertaken by Professor Holton is unique in American education. The information obtained is expected to prove of high value both in the college work in general and in Mr. Holton's efforts to be of assistance to the students now teaching.

To the latter end he has sent to each teacher placed by the department a letter urging effort, coöperation, and willingness to receive assistance. He urges the teachers to call on him for advice or help at any time.

The text of the letter follows:

"How are you getting along with your teaching? Do you like your work? What are some of your most difficult problems? Is there anything the college can do to help you? If there is, please call upon us at any time.

"The college believes in you, and we believe that you will make a success. I am sure that you realize better than anyone else that your success in the future depends more upon yourself than all others put together.

DON'T USE EVEN GOOD EXCUSES

"You owe it to yourself and to the community in which you are teaching to put forth your greatest efforts. I believe you will do this. Never permit yourself to substitute excuses (even though they may seem to be good excuses) for results in work accomplished.

"Always work in coöperation with your superintendent, principal, and other teachers. Do not be afraid to ask for help; every successful teacher does this.

"Any time that I can be of service to you I want you to call upon me for it."

In a number of cases no weak points are mentioned by the superintendents, who state that the teachers appear to be strong in all respects. Weak points which are strongly criticized in the case of some teachers, are incorrect English and unprepossessing appearance.

Here are some of the favorable comments: "alert, organizes and prepares his work well, coöperates faithfully, and is absolutely dependable;" "vitalized teaching power, discipline, inspiring personality;" "knowledge, enthusiasm, sympathy, and love of work;" "faithfulness, tenacity, and interest."

Two alumni, a young man and a young woman, who were placed in a well known normal school are characterized by the president of the institution as worth from 25 to 50 per cent more than they are receiving.

WILL SPEAK ON RURAL CREDIT AND ECONOMICS

Dr. B. H. Hibbard, Expert from Wisconsin, to Address Kansas Farmers on Live Agricultural Topics

A feature of the Farm and Home week at the agricultural college December 27 to 31 will be the lectures on rural credit and farm economics to be delivered by Dr. B. H. Hibbard, professor of agricultural economics in the University of Wisconsin.

Doctor Hibbard for 12 years was head of the department of economics in the Iowa State college, spent a year in Europe studying the coöperative movements on the continent, and later became professor of agricultural economics in the University of Wisconsin. He has made a special study of rural credit and has published one of the best bulletins on this subject in the country. His address on rural credit will be delivered before the general assembly Thursday morning, December 30. In the afternoon, he will conduct a conference period in the rural life conference, when the subjects of coöperation, marketing, and other economic community projects will be discussed.

Doctor Hibbard is an entertaining and fluent speaker and handles subjects of unusual interest to Kansas people at the present time.

TWO NEW TURBINES WILL BE USED IN COLLEGE RESEARCH

Are Equipped with Absorption Brakes and Other Helpful Instruments

The steam and gas engine department of the college has just received two steam turbines—one 30-horsepower turbine built by the Terry Steam Turbine company of Hartford, Conn., and a 10-horsepower turbine built by the Kerr Steam Turbine company, Wellsville, N. Y. The turbines will be used only for experiments and research work. They are provided with absorption brakes and other instruments to facilitate testing.

WATER STATISTICS SHOW COLLEGE HAS BIG THIRST

Consumption Is 125,000 Gallons a Day—Plenty Is Available

The Kansas State Agricultural college uses 125,000 gallons of water daily, according to Jacob Lund, heat and power superintendent. The supply is adequate and the quality good.

Dean A. A. Potter has met frequently in the last few weeks with the Kansas civil service commission for the purpose of making out examinations and determining the qualifications of engineers and firemen for the various state institutions.

TO CUT COST OF LIVING

MISS NOLA TREAT MAKES SUGGESTIONS FOR KANSAS HOUSEWIVES

Budget Is Practical Means of Reducing Expense—Economy in Purchasing Meat and Substitution of Other Foods Help—Market in Person

How to combat the high cost of living is a problem of importance to the average Kansas housewife. How may I keep down the grocery bill? is a question asked daily.

In the first place every housewife should keep accounts, says Miss Nola Treat, manager of the new cafeteria in the Kansas State Agricultural college. She should know just what is spent each month for food products.

Then a budget is a practical means of reducing expense. As one household efficiency engineer has said, "The budget is to the housekeeper what a set of blue prints is to the builder."

There is a great advantage in marketing in person, according to Miss Treat, and there is nothing more important than the utilizing of the left-overs in planning the meals for the day. It goes without saying, also, that the selection of foods that have the greatest nutritive value is a step in the direction of economy.

INSTAL A COST SYSTEM

"The average housewife may reduce expenditure by keeping accounts each month of amounts spent for various food products," said Miss Treat. "By comparing accounts of several months it will be possible to obtain the average amount spent for groceries.

"This tends toward the keeping of budgets and is the scientific means of regulating family expenditure as opposed to the haphazard methods of the past. It is possible to find what food products are most expensive and make some definite plan in regard to the monthly allowance.

"Since the cost of living has advanced so rapidly in the last few years, a great deal of attention has been paid toward reducing certain items of expenditure. Such efforts are more or less futile unless we are able to draw such deductions as will aid us in the future."

CHEESE IS GOOD SUBSTITUTE

Since meat makes up a large part of the ordinary family diet, any economy in the purchase of it will make a noticeable reduction in the grocery bill. By using meat substitutes which are less expensive, but as nutritious, the amount paid for meat is greatly reduced.

The use of cheese, which is rich in protein, as a meat substitute, will prove satisfactory. Since cheese is a concentrated food, less is needed to furnish the necessary food requirement. Nut loaf is also an excellent substitute for meat since it adds variety to the diet and is rich in protein.

The cheaper cuts of meat may be used to great advantage. The cheaper cuts are tougher than the more expensive although they are of equal nutritive value. The cheaper cuts may be used as meat loaf or Hamburg steak, or may be cooked by moist heat.

WATCH FOR SHORT WEIGHT

"It is a great advantage to market in person," remarked Miss Treat. "The housewife may see the food products before she purchases. In this way it is possible to get the best that is offered for the price.

"It is well to weigh articles sold by weight. In case the grocer gives short weight it should be discovered. Although the difference may be small, in a year's time it counts up and the housewife has paid a certain per cent of her allowance without obtaining any return.

"There is nothing more important than the utilizing of left-overs in plan-

AGGIES WIN

Score of yesterday's game:

AGGIES 6
WASHBURN 0

WHY DO LEAVES FALL?

IT'S NOT BECAUSE OF FROST, SAYS ALBERT DICKENS

Earthy Matter Gets into Delicate Cells and Chokes Tissue—Pine Needles Are Always Falling—Expert Tells Cause of Attractive Autumn Tints

What makes the leaves fall? Why the season's brilliant color?

These are the questions that many persons are asking and few are answering.

"The colleges of the country are interested in the fall of leaves chiefly when it is of economic importance, as when it is caused by the action of some disease," says Albert Dickens, professor of horticulture in the Kansas State Agricultural college.

"For the most part, horticulturists are content to accept the long standing theory of Dr. Asa Gray in considering the question of the fall of leaves."

MAPLE LANGUISHES BEFORE FROST

Leaves are not destroyed by frost as is often erroneously supposed. The leaves of many trees, such as the red maple, begin to languish or even fall before the first frosts. Spring vegetation, on the other hand, when frost bitten, withers and blackens, but the leaves do not all fall off as is the case in the autumn.

The roots of a tree are constantly taking up water which contains in dissolved form small amounts of earthy matter such as sulphates of lime, silex, magnesia, and potash. Some of this matter finds an immediate resting place in the woody tissue of the tree. Most of it, however, is transported to the leaves where, as the water evaporates, it is left in the form of a deposit on sediment lining the walls of the delicate cells of the parenchyma, or fundamental tissue. This incrustation gradually but surely chokes the tissue and renders the leaf incapable of performing its functions of storing starch for use by the plant as food.

THEY DON'T WORK—COLOR CHANGES

The autumn tints of the leaves arise following their failure to perform their accustomed tasks. The change in color is brought about chiefly through a diminished circulation in the leaves, the higher degree of oxidation to which their chlorophyl, or green matter, has been subjected, and a possible change in the composition of the earthy materials referred to before.

In cold climates, lack of light and heat seems to be the reason for the falling of the leaf. This deficiency causes a cessation in the functions of the leaf cells. A layer of tissue is formed across the base of the leaf stalk; its cells separate from one another until only the fibers of the veins hold the leaf to the tree. These sooner or later yield to the stress of wind and frost and the leaf is sent whirling to the ground.

HOUSE CLEANING HELPS TREES

This periodical fall of the leaves is a direct benefit to the tree because a great deal of waste matter is annually stored up in the leaf tissue. Every tree in its annual fall house cleaning thus gets rid of much harmful and superfluous material.

Many persons think that the so-called "evergreens" never lose their leaves, or "needles." It is true that trees of the nature of the pine do not lose their leaves at any one time in the year. A sufficient number of the needles are always attached to make the tree look green. There is, however, an almost constant shedding of leaves in progress, a few being dropped at a time.

I. I. Taylor, instructor in applied mechanics, is carrying on tests on concrete in coöperation with the American Society of Testing Materials.

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J. D. WALTERS.....Local Editor

Except for contributions from officers of the college and members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism. The mechanical work is done by the department of printing. Of these departments Prof. N. A. Crawford is head.

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SATURDAY, NOVEMBER 13, 1915

Some men ride the water wagon two days a week—the two just before pay day.

Dr. William Trufant Foster says some boys prepare for college in a barber shop. This shows, at any rate, their realization that their heads need something.

A man in Kansas City is likely to be shut out of a warm home for the winter. He is in jail on his own confession that he is a highwayman, but officials say he will have to prove it if he is going to stay, and the proof seems wanting.

Practically everybody will greet with joy the intention of some of the coeds to bake bread "like mother used to make," notwithstanding the recent disillusioning assertion of a food expert that the only reason mother's cooking tasted good was because boys and girls were always hungry.

THE HOLTON PLAN

The follow-up system devised by Professor Holton for keeping track of graduates of the college who are engaged in teaching, is one of the most practical steps ever undertaken in the educational field.

Follow-up systems are common in all lines of business. Teaching is notably a conservative profession, however, and for years no one thought of applying it to the tests of business efficiency. By the present time the need of efficiency in teaching is well recognized, but very few of the plans undertaken along this line are anything like the one devised by Mr. Holton in point of practical usefulness.

Not only will the Holton plan benefit the schools in which the college graduates teach by making the teachers more alert to their opportunities and responsibilities, but it will also enable the authorities to see in what respects the preparation offered by the institution for teaching is weak and in what respects strong. It is not unsafe to predict that the Holton plan will be adopted in the near future by every institution which places any considerable number of its graduates in teaching positions.

AGAIN AT THE TOP

The west central states are again at the top in agriculture. The average acre yields in these states—Kansas, Nebraska, North and South Dakota, Iowa, and Missouri—are 22.8 per cent above the average as compared with 7.4 per cent for the whole of the United States.

According to the crop report of the United States department of agriculture, this group is the only one in which all the states are this year above their average. In New England every state, except Connecticut, is below the average. The far western states of Oregon, California, and Washington, average less than 3 per cent above normal.

There seems no reason why one should seek far-away states for agricultural success. Kansas, with acre yields 24.9 per cent above average, compares most favorably with some of the states to which men have gone

from the middle west. And the yields can be built up still more by the application of the most modern methods of farming.

SCHOLARSHIP AND LIFE WORK

The figures presented by Dr. William Trufant Foster, president of Reed college, in an address here this week deal a fresh blow to the idea, common in some quarters, that scholarship is of little or no value in the work of the world. Investigations made by President Foster indicate that the men most successful in later life are the men who have attained high rank as students in college.

It is true that there have been a number of examples of prominent men who had failed completely in college or who had attained only mediocrity. A careful examination will show, however, that most of these men made their successes in fields which are practically closed to the average man or woman—fields the qualifications for which are so rare and peculiar as to restrict them to the very few.

Hawthorne and Poe were unsuccessful in college. When they went into ordinary activity—Poe into newspaper work, Hawthorne into a customs house—they were not much more successful. They succeeded in certain types of writing—types which no other American writers have been able to imitate even in kind, let alone degree.

William Morris was content with a pass degree at Oxford. At least once in his later life he failed in business. He helped to found a school of art in which fewer than a dozen persons have been recognized as successful.

When one turns to the more ordinary phases of the world's work—work in which men and women of less peculiar characteristics may hope for success—he finds the percentage of scholars very high. It is an interesting fact that all three of the living men who have held the presidency of the United States—Theodore Roosevelt, William Howard Taft, and Woodrow Wilson—attained Phi Beta Kappa, the highest scholarship honor, in college.

The reason for the success in certain lines of men who have not distinguished themselves in college is presumably that no college work has yet been devised to develop these particular capacities, so rarely do they appear. This is not to say that there is no possibility of assisting in their development through certain studies.

NO "ROGUES' GALLERY"

The taking of photographs for the purpose of identification of the children in the public schools of this city stopped yesterday, with an order to this effect received by John W. Davis, director of the bureau of attendance. It was Mr. Davis who recommended the scheme to the committee on special schools and the board of superintendents which approved of it. Mr. Davis would not say yesterday from whom he received his orders to quit.

The scheme as told exclusively in the Eagle, when first it was introduced, was to photograph every child in the schools of Brooklyn and Manhattan. A firm in Philadelphia had agreed to take the pictures, provided the child was permitted to purchase a certain number of the photographs. One of the snapshots was to have been placed at the lower right corner of an identification card, which every child was to carry at all times. The purpose was to stop truancy.

Until yesterday the work of taking the pictures of the school children was progressing rapidly. Many schools were visited by the camera man. It was reported that the scheme in no way interfered with the class work in any instance. But the board of education had not been asked to approve the plan, and some of the members bitterly opposed it. Mr. Somers was one of them. He said he objected to the children being formed into a "Rogues' Gallery." It was due to the publicity given the scheme by the Eagle that it was killed.—Brooklyn Eagle.

THE HOD IS DOOMED

The hod is doomed. So says E. C. Hatheron, president of the Building

Laborers' International Protective union.

The quaint old hod carrier, with his briar pipe—the man who merely "carries the brick up to the fifth story, while the fellow up there does all the work"—will soon be but a memory. "It will not be many years until the curio shop will claim the hod," says Hatheron.

"Hoisting machinery is filling the place of the old time laborer, and even mixing machines are becoming the rule in building operations. The hod carrier has stepped up a notch. He has discarded his blackened pipe and now a cigar rakishly adorns the corner of

A QUARTER CENTURY AGO

Items from the Industrialist of November 15, 1890

The electrical branch of the Scientific club had an interesting meeting last evening.

The experiment of last winter having been a success, the peach trees are again laid.

Applications for farmers' institutes have been received from Marysville and Edgerton.

One application has already been made for the privilege of furnishing dinner on commencement day.

RELUCTANCE

Robert Frost

Out through the fields and the woods
And over the walls I have wended;
I have climbed the hills of view
And looked at the world and descended;
I have come by the highway home
And lo, it is ended.

The leaves are all dead on the ground,
Save those that the oak is keeping
To ravel them one by one
And let them go scraping and
creeping
Out over the crusted snow,
When others are sleeping.

And the dead leaves lie huddled and still,
No longer blown hither and thither;
The last lone aster is gone;
The flowers of the witch-hazel wither;
The heart is still aching to seek,
But the feet question, Whither?

Ah, when the heart of man,
Seemed it ever less than a treason
To go with the drift of things,
To yield with a grace to reason
And bow and accept the end
Of a love or a season?

SUNFLOWERS

Some folks are born lucky and others can't keep from making speeches.

Mexico hasn't had a situation for several days, but Greece is as full of crises as ever.

The world is full of humorous situations, 90 per cent of which are contributed by people who are serious.

There seems to be a growing interest in the development of personality. Considering the fact that the market is glutted, we cannot reason why this should be.

It's a poor rule that won't work both ways. That is the reason we have never taken any stock in the old saw about taking a cold in your head because your feet get wet.

The early part of the twentieth century will probably be remembered as the era in which hogs ate balanced rations and humans ate fruit salad and pimento sandwiches.

"SING ME THE ROSARY"

In the darkness of the early morning, the train dropped down from the top of the flint hills into the beautiful and fertile Walnut valley, and the sun came out of the east, a great, red flaming disc that harbingered in the perfect day, and ere he reached the zenith and his rays fell scarcely aslope, the Fourth Annual Kafir Corn Carnival of El Dorado, Kan., had begun.—Fort Scott Republican.

With a plate story in the weeklies pointing out that all philosophers have liked pie and the tobacco manufacturers asserting that "men who chew are men who do," we are getting on the road toward deciding just what food is needed for every occupation. The next step will be prepared foods guaranteed to produce respectively statesmen, physicians, grocers, barbers, and all the rest of the occupations. We hazard a guess, however, that there still will be plenty of use for hay.

THE DISCRIMINATOR

Eloise is full of dimples,
Sunny smiles, and things like that;
Round her throat the pink flesh wim-
ples—
My! but she is fat.

Genevieve is tall and stately,
And her waist is neat and trim;
Through the world she moves sedately—
Goodness! she is slim.

Like Jack Spratt, I crave no fat;
Like his wife, I bar the lean;
But, sad to say, I see no way
To lick my platter clean.

Creating Community Life

Thomas Nixon Carver

When a common or universal passion for productive achievement is once definitely aroused in a community, the achievement will follow as a matter of course. Any community can have as beautiful a countryside as it wants, provided it wants it seriously enough, and with sufficient unanimity, to spend the time and energy necessary to beautify it. Any community can have as moral a community or as prosperous a community as it wants, under the same conditions. Conversely, the lack of a common desire or a common social interest means failure in the arts of peace as surely as in those of war.

The desire to make the village the most beautiful village in the world, or to make one's township the most beautiful township, or to make it the greatest corn or cotton or wheat or potato growing township, or to make its schools the best in the world, or to produce the finest cattle or horses or hogs in the world,—any really useful purpose, in fact, if it will unite the people and call out a common and universal enthusiasm,—will do more to dignify the social life of the village or township than all the purposeless social entertainments that could be invented. A social life is not created by merely saying, Go to, now, let us be sociable. It is created by having a common purpose, worthy enough to command itself to all right-minded people, and large enough to demand their attention, their time, and their hard work. The young men and women in particular, of our race, have never yet failed to respond to a call to hard work and self-sacrifice, when the work and the sacrifice were for an object of common good which they really thought worth achieving.

his mouth. The hod carrier wears a natty suit, and stands with his hand upon the lever of the hoisting machinery, sending up the material by that means for the 'fellow who does the work.'

"So moves the world. No one regrets that the labor of the workman is being made more pleasant and less wearisome, and yet who will not miss the old hod carrier, with his cheerful humor? There will be less of the human element entering into the construction of home and public buildings."

"The passing of the old time workman may give place to better methods, but it has its element of sadness."—Emporia Gazette.

SCIENTIFIC AGRICULTURE

There are still farmers who look upon scientific agriculture as the medieval church looked on scientific astronomy, but those who scoff at what the scientific agriculturists know or can do should be fair enough to agree that if the wizards at Manhattan, for instance, can go into competition at big fairs with the best producers of many lines, live stock and farm and horticulture, and get away with the prizes, they are making a pretty strong case for agricultural science.

A Manhattan dispatch claims that "the most extensive winnings ever made by any institution at the American Royal Stock show were secured by the Kansas State Agricultural college this year."

Before a farmer condemns the scientists at Manhattan or elsewhere, let him go in and carry away a few grand prizes in his own line. Kansas farmers, however, as a rule cheerfully support the agricultural college, and their boys are all for it.—Topeka Capital.

W. A. Buck, fellow in engineering, is carrying on extensive research experiments with oil traction engines.

Many members of the chemistry class are giving special attention to etching, and a number of neat specimens have been produced.

D. G. Fairchild, '88, reads a paper on fungicides at the meeting of the Association of Agricultural Colleges at Champaign, Ill., this week.

It is reported on good authority that Eugene F. Ware of Fort Scott, the "Kansas poet," is making preparations to remove to Omaha, Nebr.

The burdens of the executive department fall upon Professor Popeno in the absence of President Fairchild and Professor Faillyer, the senior member.

J. B. Brown, '87, writes of satisfaction in his work in the United States signal office at St. Louis, Mo. He finds some time for study, but none for play.

The week of prayer for young men was observed by the college Young Men's Christian association in daily meetings. A good attendance and profitable meetings are reported.

In the absence of President Fairchild, the young men of the fourth-year class devote two hours per day to agriculture, while the young women spend the same amount of time in literature.

Prof. J. H. Lee of Manhattan, for the past 12 years superintendent of public instruction of Riley county, and one of the best known educators of the state, was defeated in the election last week by the candidate of the Farmers' Alliance party, E. E. Olson.

Some evilly disposed person or persons broke into the barn Tuesday night and "docked" the tail of Professor Georgesom's horse in imitation of the prevailing style in eastern cities—imitation, because the job was botched and the animal disfigured for the time being.

AMONG THE ALUMNI

Lynn Cleland, '14, spent Sunday with friends in Manhattan.

C. A. Davis, '13, is now a student in the University of Kansas.

Carl Wyland, '15, engineer, visited with old friends over Sunday.

Willis E. Berg, '11, is teaching in the State Normal school at Flagstaff, Ariz.

Arthur Montford, '13, is teaching agriculture in the high school of Paola.

E. W. Matherly, '06, is teaching agriculture in the Osawatomie high school.

A. G. Vinson, '15, is teaching agriculture in the State Normal school at Alva, Okla.

George Williams, '15, visited the college this week. He is on a farm near Bigelow.

Elmer Bull, '08, is teaching mechanic arts at the State Normal school at Albion, Ida.

Miss Ethel Goheen, '13, is teaching home economics in the Holdenville (Okla.) high school.

Mrs. Mary H. Shilling, '13, is teaching home economics in the high school at Spokane, Wash.

Miss Nellie Aberle, B. S. '12, M. S. '14, has been elected to teach English in the high school at Fairbury, Nebr.

W. E. Stanley, '12, is teaching in Purdue university and working for his master's degree in mechanical engineering.

A. L. Clapp, '14, left recently for Fort Collins, Col., to manage a 5,000-acre ranch. Mr. Clapp had charge of the college farm last year.

Miss Virginia Sherwood, '12, is planning on spending the week end in Topeka. Miss Sherwood is stenographer in Professor Holton's office.

C. A. Day, a graduate of the dairy short course in 1911, was recently appointed instructor in butter making in the dairy department in the University of Wisconsin.

Earl J. Willis, '14, is teaching manual training in the Nuyaka Indian school at Muskogee, Okla., and H. S. Gish, '14, is teaching agriculture in the same school.

Andrew H. Wright, '08, is now instructor in agronomy in the University of Wisconsin. He was formerly connected with the Oklahoma Agricultural Experiment station.

Raymond Schafer, '14, has entered the college of agriculture in the University of Wisconsin, to take work toward a master's degree in farm management. Since graduation he has been working on a ranch near Denver, Col.

Otto Hubp, '15, has been appointed one of the official testers in the herd testing department of the college of agriculture in the University of Wisconsin. Mr. Hubp has been working during the summer on a dairy farm in Minnesota, near Minneapolis.

It was largely through the efforts of Miss Lillie B. Bridgeman, '86, of Berkeley, Cal., that Mrs. John Ellis obtained custody of her child in a court in Tokio, Japan. The Ellis case, which was decided a short time ago, aroused considerable interest because of its unique legal features.

L. E. Hazen, '06, writes of his work at Cornell university. He is an instructor in the department of rural engineering where his work has brought him advancement which he appreciates. At the same time he is pursuing graduate study in Sibley college and will receive the degree of mechanical engineer next June.

William A. Sumner, '14, is enjoying his work as instructor in agricultural journalism in the University of Wisconsin. One of his duties is the editing of bulletins. Mr. Sumner was one of the strongest journalism students during his course here, and was assistant in the department for a year after graduation.

BIRTHS

Born, to Mr. Gallup and Mrs. Stella (Hawkins) Gallup, '09, Marysville, Kan., a son.

MORE ALUMNI SHOW INTEREST

Here are some more responses from alumni to the request of the association for funds for its work:

Edgar H. Dearborn, '10, and Mrs. Gladys (Nichols) Dearborn, '10, Nowata, Okla.: "Inclosed you will find our contribution for alumni expenses as per request in your letter of recent date. We are glad to be of assistance and heartily wish you success."

Walter G. Ward, '12, Agricultural College, N. D.: "A recent issue of THE INDUSTRIALIST contained a copy of the letter sent to the alumni. I did not happen to receive the letter, so was not aware of this movement until reading of it in the paper, but trust my check is not too late to be of service."

Ray D. Laflin, '12, Hettinger, N. D.: "I have just received the letter sent out to the alumni, and inclosed please find a check for the amount desired. I trust the alumni will be able to accomplish the good work they have started."

Miss Mary Lee Turner, '12, Chapman, Kan.: "I am inclosing a personal check for \$1 in payment of the assessment levied by the Kansas State Agricultural College Alumni association. I am glad to help a little in the good work."

Mrs. Doris (Train) Stewart, '06, St. Anthony, Ida.: "In response to the request of the committee, I am inclosing a draft for \$1 to cover the assessment at a recent meeting of the board of directors. I certainly am in sympathy with the project in question and only wish I might do more in the interest of it."

HEADLEE EDITS REPORT

Copies have been received here of the 1914 report of the entomology department of the New Jersey Agricultural Experiment station, edited by Dr. Thomas J. Headlee, formerly of this college. The pamphlet contains nearly 200 pages of valuable scientific matter, most creditably prepared. Among the papers is a detailed report of the efforts of the station to control the mosquito pest.

FARM WRITER MUST NOT ABANDON CONVENTIONS

Edward N. Wentworth Tells Journalism Students of Requirements of Agricultural Press—Suit Editor's Tastes

The successful writer for the agricultural press must not depart too far from the conventions of his subject, according to Prof. Edward N. Wentworth, formerly associate editor of the Breeder's Gazette, who gave an interesting and practical address to the students in industrial journalism Thursday. He laid stress on good English style and on handling matter in a way suited to the publication to which the article was to be submitted.

Different types of publications, in the belief of Mr. Wentworth, reflect the viewpoints of their editors. The circulation of any periodical, he said, tends to comprise readers of the same general tastes as the editor's.

Mr. Wentworth pointed out the fact that periodicals are often referred to in important historical matters. As an example of this, he cited the fact that the history of the Suffolk horse has been discovered by consulting the files of British farm journals. He urged accuracy in farm writing.

ENGINEERS WILL NOT HAVE TO coax BLUE PRINT WAGON

Three Departments Join in Purchase of Up-to-Date Equipment

No longer will the engineers and architects have to coax a flat wheeled blue print wagon over a crooked track on the wobbly L-road, for the long looked for blue printing machine has at last been installed in the engineering building. At a cost of \$250, the civil engineering, highway engineering, and architecture departments have jointly purchased a new Wickes continuous blue printing machine.

THIS IS TIME TO SPRAY

NUMEROUS DESTRUCTIVE INSECTS CAN BE ELIMINATED IN FALL

Lime-Sulphur Solution Controls Not Only San Jose Scale but Many Other Pests—Dean Tells of Treatment for Long List of Orchard Enemies

Mr. Kansas Farmer, do you expect to harbor vast hordes of codling moths, San José scale, leaf eating insects, and other pests, or do you contemplate having the fruit from your orchard for your own use and for commercial purposes?

The fall and the spring are the periods in which spraying should be done, and several birds may be "killed with one stone," according to George A. Dean, professor of entomology in the Kansas State Agricultural college.

"When spraying trees with the lime-sulphur solution for the San José scale a number of other insects and several plant diseases are also brought under control," says Professor Dean. "The spray is used when the trees are in a dormant condition. It is more effective in the control of plant lice and plant diseases if applied in the spring just before the leaves open."

APPLY SPRAY ONCE A YEAR

In the list of insects controlled by the spray, states this expert, are the cherry scale, the Putman scale, the pear leaf blister mite—also a serious apple pest—and apple plant lice. One application a year if the trunk and limbs are thoroughly coated is sufficient. If the spray is used late in the fall, it is best applied when the temperature is about freezing.

The lecanium scale cannot be satisfactorily treated with the lime-sulphur spray. Kerosene emulsion, in the ratio of 1 to 12 parts of water, or some miscible oil, in the ratio of 1 to 18 parts of water, should be used.

The codling moth larva is the worm in the wormy apple. This insect passes the winter as a larva in a silken cocoon in knots under loose scales of bark and in crevices of trees. In fall and winter, trees, especially the old ones, should be scraped with an old hoe or other dull instrument to destroy the hibernating larvae of the codling moth.

DESTROY CATERPILLAR EGGS

The eggs of the tent caterpillar are laid in conspicuous brown bands around the smaller twigs and, being easily seen, can be collected and destroyed with little trouble at the time of pruning.

The nests of the leaf crumpler should be collected and burned. The insect passes the winter in the larval stage in a tough, horn-shaped case to which are attached, encasing it, several dead leaves.

Buffalo tree hoppers puncture and make large scars which weaken and deform the branch. These injured branches should be removed in pruning, to allow the growth of strong branches.

When the peach tree borer is present, the trees should be wormed. In peach orchards, the larva of the peach tree borer makes its presence known by the casting that exudes from the base of the trunk, often beneath the surface of the ground. Therefore the soil should be removed from the base of the tree previous to worming, to show the location of the tunnel into the tree. In worming, the tunnel is traced to its end by cutting away the unsound wood with a sharp knife. The larvae are then found and dug out with the knife or a hooked wire. It is wise to worm a second time after the orchard has been gone over once.

In trees infested with the shot hole borer, the bark is punctured by many small exit holes as if shot by a shot gun. Just below the bark are the small tunnels of the insect. Many peach trees that have the vitality to exude sap from the exit holes can be saved by a severe pruning and an application, as the buds swell in the spring, of either of these washes: 1 pound of fish oil soap to a gallon of water or 1 gallon of soft fish oil soap and 1 pint of crude carbolic acid in 8 gallons of water. These should be applied to the trunk and larger branch-

es. In the case of apple trees and trees that do not exude sap it is often a question whether it is best to try to save them.

MANY STUDENTS TREATED BY COLLEGE PHYSICIANS

Variety of Complaints Included in Report for Last Two Months—Vaccination Against Typhoid Fever

Figures for the months of September and October indicate the value of the medical service performed by Doctors R. T. Nichols and Marie A. Greene in the Kansas State Agricultural college. The report goes to show that the work is worth several times the 50 cents paid by each student for medical services and for preventive measures.

In September, 659 new cases were attended. There were 11 house visitations and 758 office calls. A classification of ailments follows: abscesses and infections, 33; boils, 38; skin troubles, 15; lacerations, 14; nervous and mental afflictions, 10; colds, 8. This list does not include many of the minor difficulties.

In October the more frequent complaints were divided as follows: colds, 93; ocular troubles, 15; lacerations, 38; sprains and strains, 29; la grippe, 35; boils and abscesses, 19; pulmonary difficulties, 24; nervous disorders, 20; skin difficulties, 23. In this month there were 1,203 office calls and 598 new cases. Seventy-two house visitations were made.

All students who have not recently been vaccinated against typhoid fever, may obtain treatment at the physicians' offices in Anderson hall prior to Thanksgiving. Vaccination necessitates three doses 10 days apart. Last year 1,700 typhoid vaccinations were handled by the department.

GET BUSY IN GARDEN NOW, ADVISES ALBERT DICKENS

Careful Preparation of Soil in Autumn Will Produce Vegetables a Week Earlier Next Spring

Get busy in the garden right now, is the advice of Albert Dickens, professor of horticulture in the Kansas State Agricultural college.

By careful preparation of the soil in the fall, he says, you can have vegetables a week or 10 days earlier than if all the spading or plowing is done in the spring.

"Clear off the ground," says Professor Dickens, "and pile and burn dead pea and tomato vines, lettuce, and other remains of vegetation in order to destroy insects and their eggs harboring there.

"Scatter well rotted stable manure over the garden. It would be hard to use too much manure. Twenty-five loads may be used to the acre before plowing and 25 more after plowing.

"Plow deep—9 or 10 inches. I never saw a garden plowed too deep. Plowing under manure has the desirable effect of promoting soil ventilation.

"Leave the ground rough, so that there will be greater surface on which frost may operate.

"In certain localities it is advisable to apply a coarse manure mulch to prevent blowing or washing of plowed ground."

KANSAS INSTITUTES TREAT FARM BUYING AND SELLING

Program for Meetings Today Takes Up Marketing Facilities and Co-operation

Farm and home institutes in Kansas are discussing today the subject of farm buying and selling, which was suggested by the extension division of the agricultural college. The topic is divided into three parts, "Our Present Facilities for Buying and Selling," "How Can the Facilities be Improved?" and "The Principles of True Co-operation."

AGRICULTURAL COLLEGE TO MANUFACTURE ITS OWN ICE

S. L. Simmering Is Installing Refrigerating Plant in Dairy Building

S. L. Simmering, instructor in steam and gas engineering, is supervising the installation of a large refrigerating plant in the dairy building. The details of this installation was designed by Mr. Simmering. The plant will be used to supply ice to the various college departments.

GET FARM LETTERHEAD

MODERN AGRICULTURE DEMANDS BUSINESS METHODS, SAYS EXPERT

Printed Stationery Forms a Simple Type of Advertising and Indicates Well Established Industry—Should Carry Appropriate Cut

The farmer of today is taking his place in the world as a business man. The farm of yesterday, which was a social and economic unit within itself, has been transformed into a part of a larger business organization, according to H. W. Davis, associate professor of the English language in the Kansas State Agricultural college.

This change in the organization of the farming industry has placed new obligations upon the farmer which have made it necessary for him to become a qualified business man, says this authority on farm advertising. The farmer must be capable of meeting other men as a salesman and a buyer.

FARMER MUST USE ADVERTISING

The farmer is now engaged in the business of growing live stock and grains. The old time farmer raised his farm products and manufactured them into articles which he and his family used. The farmer of today is engaged in a type of farming that requires a certain amount of buying and selling, which has made it necessary for him to employ some method of advertising.

Printed stationery is an important and inexpensive method of obtaining publicity, says Mr. Davis. The letterhead should contain the name of the farm closely associated with that of the owner. They should be so connected that the reader will think of them as one. The farmer should use a simple and neat illustration, or cut, that will indicate the type of farming in which he is actively engaged. If he is a stockman, it should contain the picture of his most prominent animal. If he is a fruit farmer the illustration should show the fruit he is growing.

USE PAPER OF GOOD QUALITY

The illustration must be selected with care in order that each part of the design may add something of value to the combination.

Printed stationery is an indication of a well established business because it shows that the farmer is using up-to-date methods, says Mr. Davis.

The paper should be of good quality because it is an indication of the standard of the business. It is one of the ways the patron has of judging the work of the person with whom he is to trade. The difference in price between good and poor paper is slight.

RAYMOND ROBINS TO TALK TO STUDENTS OF COLLEGE

Prominent Social Worker Is Making Tour of Educational Institutions

Raymond Robins, of Chicago, well known writer on labor subjects, settlement worker, evangelist, and former Klondiker, will give several addresses before the students of the Kansas State Agricultural college, January 6 to 9.

Mr. Robins will speak at a large number of educational institutions this year and before coming to Manhattan, will have appeared before large audiences in eastern colleges. Mr. Robins arouses much interest wherever he talks.

ENGINEERING DIVISION PLANS FOR MANY SHORT COURSE MEN

Work Will Be Given in a Variety of Subjects—Will Furnish Practical Training

Preparations are being made by the engineering division for handling a large number of students in the various engineering short courses. These short courses will include traction engines, concrete construction, road building, and shop work. The short courses will begin January 3 and close March 15. They are intended mainly for persons who have not the preparation or the means to pursue one of the college courses, but who wish to gain a practical knowledge of the details along the line of their occupation.

DAIRY EXPERT EXPLAINS HOW TO IMPROVE HERD

OWNER MUST KEEP IN MIND BREEDING, PRODUCTION, AND INDIVIDUALITY, SAYS O. E. REED—ACQUIRED CHARACTERS NOT REGULARLY TRANSMITTED

The dairy cow has been transformed, by careful selection and breeding, into a highly specialized or artificial animal. One of the big problems of the breeders of dairy cattle is to select animals that will improve the herd, according to O. E. Reed, professor of dairy husbandry in the Kansas State Agricultural college.

A dairymen who is improving a breed of cattle must have a herd characterized by breeding, production, and individuality. In selecting foundation stock it is important that the beginner have these three essentials in mind.

"A good dairy cow must be an economical producer," says Professor Reed. "This means that she must produce large quantities of milk. Experience has proved that the best individual is not always the best producer. Some of the cows that have held the world's record for the production of butter fat have been poor individuals.

HOW MILK COW WAS DEVELOPED

"The artificial cow we have today is the result of many years of breeding. The undomesticated cow gave only milk enough to support a calf until it could live on other foods. The cows at that time probably showed little variation in their dairy characteristics.

"After cattle were domesticated and milk became an important article of food, some attention was paid to improving the milking qualities. Some cows through natural variation showed more highly developed milking characteristics and were retained as breeding animals.

"It is a well established law of breeding that when a certain character is developed in a breed of animals more than originally was the case, this acquired character is not transmitted regularly. We often see cows from high producing dams that are poor performers, because the dam was not a well bred cow."

SHOULD BE FROM CONSISTENT FAMILY

A well bred animal is a member of a strain or family that has proved its value by being an average consistent producer, according to this expert.

A cow does not have to be a purebred animal to be well bred; that is, she can be well bred even though she is not from a registered sire and dam. Many well bred grade cows produce 600 pounds of butter in a year, while their purebred stable mates produce only 200 pounds.

The well bred cow can reasonably be expected to transmit her dairy qualities to her offspring, while the calves from a poorly bred cow, even though she is a good producer, will probably be poor milkers.

A well bred cow is one sired by a bull having a large number of high producing daughters. The dam of this cow must be an average milker. It has been proved that the heifer inherits a larger per cent of her dairy qualities from her sire than she does from her dam. A bull may have a few high producing daughters, but the average of all may be low.

"I would rather have a cow from a family of medium high producers," says Professor Reed, "than one with a large record if the average record for that strain was low."

SELECTION IS HARD PROBLEM

"The selection of the cow on individuality alone is a difficult problem but nevertheless it is the one we usually must employ because records are available in but few cases.

"Where production records have been kept it is usually the poorer animals that are for sale. The average dairymen can select the 300 pound cow from a herd of 100 pound cows, but it is impossible to pick the 600 pound cow from a herd of 300 pound animals."

The dairy breeds are similar but differ in a few essential characteristics. These differences must be firmly fixed

in mind and followed in selecting a herd of cows. A uniform herd is the result of the use of care in the selection of foundation stock.

A breeder should try to combine production, breeding, and individuality in mating his animals. This has been done in a number of the best herds in the country.

MAKE GOOD IN COLLEGE, SUCCEED IN LATER LIFE

Dr. William Trufant Foster Presents Figures to Show Relation Between School Standing and Future Distinction

The man who makes good in his high school and college studies is the man who succeeds after graduation, according to Dr. William Trufant Foster, president of Reed college, Portland, Ore., who addressed the faculty and a number of the advanced students of the Kansas State Agricultural college Monday.

Doctor Foster presented statistics based on thousands of cases, showing that there was a direct relation between the grades obtained in high school, those obtained in college, and the student's success in later life. In an investigation of 17,000 graduates of Yale and Harvard universities, it was found that of those who stood in the first 10 per cent in college more than 6 per cent were afterwards listed in "Who's Who in America," while of those who attained only mediocrity in their studies less than one-half of 1 per cent achieved like distinction. In England, Doctor Foster pointed out, honor men in Oxford and Cambridge were regarded as practically certain of distinguished careers.

"I have sometimes seen in students' rooms," said Doctor Foster, "the motto: 'Don't let your studies interfere with your education.' Students are apt to think that the things that count are the activities organized by the students themselves, and many parents lead their children to believe that 'college life' is the main thing.

"Our business men have learned, however, that it is not the football hero, nor yet the popular man, but the good student who makes the most satisfactory and successful employee, and consequently the first thing they want to know of an applicant is his college standing."

Doctor Foster gave a number of interesting facts in regard to Reed college, in answer to questions from the audience. The institution is unique in many respects. It has an endowment of about \$3,000,000, and now has about 250 resident students. College credits are given in accordance with the grade secured—the higher the grade, the more college credit. Much time is given by the students to experimental work along sociological lines, and the results of their investigations and work have been applied effectively in the improvement of political and economic conditions in their state.

AGGIES WIN EASY VICTORY OVER FRIENDS' UNIVERSITY

Warm Day Reduces Snap in Game—Substitutes Please Coach Bender

The Aggies annexed another victory last Saturday when the squad representing Friends' university was humbled to the tune of 14 to 0.

The day was warm and the fighting spirit was exhibited only at times during the contest by the "scrappiest bunch in the Missouri Valley conference." The work of several of the substitutes who were put into the game to rest the regulars was particularly pleasing to John R. Bender, the coach.

A big crowd of Aggie rooters left Friday morning by special train for Topeka to see the Washburn-Aggie game played that afternoon.

GAS VS. OLD DOBBIN

TRACTOR TO SUPERSEDE HORSE IN HEAVY FARM WORK

Modern Machinery May Be Economically Used on Place of 200 Acres or Less, Says Motor Expert—Common Objections Are Answered

The days of old Dobbin as the beast of all work are numbered, even on the small farm, in the belief of W. H. Sanders, instructor in farm motors in the Kansas State Agricultural college. So far as the heavy work is concerned, the modern tractor will take his place.

Mr. Sanders admits that the average well-to-do Kansas farmer has viewed with suspicion the monster engines of from 30 to 50 horsepower on the draw bar. They cost so much to buy and operate, and unless their owner can secure all the plowing of a township, he cannot hope to use them more than 20 or 30 days a year.

In addition to this, he must have special engine gang plows, several harvesters, the largest thresher, in fact newer and stronger machinery all along the line, if he hopes to use one economically. This has served in a great measure, believes Mr. Sanders, to induce most farmers to get along with horsepower a while longer.

"At the same time," said Mr. Sanders, "adventurous spirits have observed the added advantages the big farmer has derived from the big tractor, and have made attempts to equal him by using their small stationary gas engines mounted on a weird assemblage of binder, mower, and cultivator wheels, wood and iron frames, gears, chains, and belts from any nondescript, broken-down farming tool, and calling the contrivance a tractor, and doing actual farming work with it.

SMALL TRACTOR IS DEMANDED

"Their successes and failures have but served to make them demand a tractor of a size to meet their needs, as well built, as serviceable, and as reliable as the larger machines, that also leaves out the imperfections of their homemade affairs.

"The past year has seen the old traction companies endeavoring to meet this demand. Some 60 or 70 manufacturers have brought out or are experimenting on a machine that is suited to all the needs of the farmer with 200 acres or less, and that his means will enable him to buy.

"One can find almost as diverse styles and sizes as among the home-made machines. Some have one wheel, some two, three, and four. Power is given in some to one wheel, others pull with all four. Several are of the so-called 'creeping grip.' In fact, every taste can be suited. Some are put out for the express purpose of cultivating rowed crops, others to pull the machinery the small farmer now owns. Others still have self contained plowing units, just like their bigger brothers. It is a large question whether any one company has as yet put out the best design for all-round work. The very diversity among them will serve the sooner to determine which is the best, and by a process of the survival of the fittest, we will sooner arrive at the standard type, much as the automobile builders are at present building almost a universal car.

MUST MEET BASIC REQUIREMENTS

"The prospective purchaser must bear in mind that there are a few fundamental requirements that these machines should meet, otherwise expensive repairs or vexatious delays may occur. First of all, the motor must be a self contained unit, strong and reliable enough to deliver its rated power continuously. Its fuel feed, oiling, and ignition devices must be absolutely reliable, and standard in all respects, yet as simple as possible.

A high speed light weight racing machine is not desirable, neither is a low speed stationary type of engine apt to be a success. A motor especially designed for the work in hand, as to speed, weight, number of cylinders, and fuel to be used, will give the best results.

"These points should all be present in their highest perfection, for there

will be plenty of other matters that will demand the attention of the operator, such as hitches in the machines, condition of roads or fields, the actual handling of the steering wheel and clutches. If in addition to all these he must be constantly trying to supervise the motor, there is small chance of the present day farmer using a tractor successfully.

"One of the chief objections that has obtained in the minds of the great majority of farmers, is that the weight of the machine will be injurious to the fields. It is true that the steam tractor of 10 years ago, did harm the ground. Its wheels were narrow, it was a very heavy and clumsy affair, and was not intended by its designer to do field tillage. This idea once set in the minds of men, is hard to change.

EXCESS WEIGHT ELIMINATED

"It has been one of the problems of the builders of present day tractors, to make them meet, as nearly as possible, all the power needs of the farmer. In no other respect has as much been accomplished, by the advent of the gas tractor, as in the elimination of excess weight, with the object of producing a machine that will successfully take the place of the horse and do faster and better work, and at a less cost, than can be done by the best horse that can be bred. Exhaustive tests show that the pressure exerted by the average farm horse, when drawing a load, is anywhere from 25 to 50 pounds per square inch of surface that his hoof covers. It is likewise easy of proof that there are engines that do exert but five pounds a square inch, while the great majority range from 10 to 18 pounds—all depending on the common sense of the operator in using the proper surface of wheel for the work in hand.

"The horseman argues that the small surface of the hoof of the horse does a very small amount of damage in any one spot. Very well, but how many horses must pass over the ground to roll or disk, after plowing, draw the drills, and do the final harrowing, that go with the seeding of wheat? It is interesting to count up the actual surface per square yard that has been subjected to the average of 30 pounds per square inch, in these various operations, and compare it with the less harmful track of a tractor which does all these operations at one trip, and the tracks of which are from 20 to 40 feet apart. It seems to me there can be but one answer. The tractor is the better power plant.

"A further objection has been raised by the horseman, that the tractor cannot go into the fields or on the roads after a rain, as can the horse. Right here is where a little common sense should be exhibited. The best agronomists tell us that the soil is harmed very much when tilled too wet. Whenever the ground is right for cultivation, the tractor can do its work as well as the horse. Highway engineers say that the men who use the dirt roads after a rain, to go to town, because there is nothing to do on the farm, because it is too wet, are little less than criminals. The harm they do to the road—if the mud or dust trails are worthy of the name—costs someone in taxes much more than the benefit that the user has derived from it, to say nothing of the extra power he has had to provide to make the trip.

"Following out both these ideas to their end, one comes to the conclusion that if a man farms his land when it is in the right condition, he can use a tractor as well as a horse. If he must go to town, he will see to it that the roads are so built that he can go at any time, without harming them. This means permanent hard roads. When this day comes, he can haul with his tractor much more at one trip than he can with his team, unless he hires other men. In this respect the tractor has the advantage of lower cost."

W. A. Etherton, the new professor of rural architecture, is receiving many inquiries from farmers in this state as well as in other states regarding farm buildings and equipment.

SCALD BOX ELDER BUG

HOT WATER WILL DESTROY WELL KNOWN AUTUMN PEST

Young Insects Suck Juices from Box Elder, Maple, and Fruit Trees, Sometimes Doing Heavy Damage—Enter Houses in Fall

Nearly every Kansan is familiar with the box elder bug which upon the approach of winter comes into dwellings and offices in such numbers as to become a decided nuisance. Well, listen! A dose of hot water before breakfast will be their finish, says George A. Dean, professor of entomology in the Kansas State Agricultural college.

The bugs are characterized by their dark red stripes. They are unpopular among the housewives as they soil the wall paper and the curtains, and make unsightly stains on the floor when they are crushed underfoot.

Often the insects are found in large numbers back of cellar windows. Sometimes, when the ground is dry, they will cluster on the ground next to the wall or foundation. In the fall they will be found in these places in the mornings or, if the day is cold and chilly, they will remain in clusters all day. If, however, the day is warm, they will scatter and crawl over the side of the house and around the windows and doors into the house. If they are not destroyed outside they will continue as a nuisance all fall and even during the warm days of winter.

APPLY TREATMENT PERSISTENTLY

The simplest and best means of control is to keep a close watch for them. As soon as they are found clustering around the bases of trees or along the foundation on the warm side of the building, they should be scalded with hot water. If this is done in the morning before they begin to scatter or crawl about, practically all of them will be killed. It should be remembered that they will continue for some time to come in from adjacent property, and thus several inspections should be made for them. It has been found that where one is persistent with the hot water treatment one can soon get rid of the bugs. A liberal amount of hot water should be used. It will not injure trees or hardy shrubs to pour hot water around the base of them.

The eggs of the box elder bug are laid in crevices in the bark and on the leaves and twigs of the box elder and perhaps of other trees. After hatching, the young insects feed by sucking the juices from box elders, maples, and other trees and shrubs. Fruit trees in the vicinity of box elders have suffered severely from the attack of this bug. The young are at first of a bright red color and their bodies are oval in shape.

As autumn or cold weather approaches, the adult bugs and the remaining young may be seen in clusters at the base on the sheltered sides of trees or along the foundations of buildings warmed by the sun. They usually cluster in some sheltered place around the cellar windows or corners of the wall, or in the cracks and spaces where the mortar has fallen out.

YES, DEAR, IT WILL BE EVERY BIT OUR VERY OWN

We Girls Are Going to Get Out the Collegian—Won't It Be Fun?

The girls of the department of industrial journalism together with others on the staff of the paper will get out an issue of the Kansas State Collegian, November 24—just before the Thanksgiving holidays.

The "Girls' Special" staff will be: Annette Perry, editor in chief; Hazel Beck; associate editor; Madge Thompson, news editor; Ethel Loring, sport editor; Edith Updegraff, society editor; Vilona Cutler, Ruth Hoffman, Mildred Branson, Grace Dickman, Elizabeth Wadley, Claudine Rathman, Helen Crane, Carolyn Lear, Emma Taylor, Jannie Cameron, Esther Nachman, and Marion Quinlan, reporters.

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STOCK EXPERTS TO MEET

AMERICAN SOCIETY OF ANIMAL PRODUCTION WILL COME HERE

Sessions Will Be First Ever Held at an Agricultural College—Local Investigative Work Is Attractive Feature to Scientists—Cochel Is Vice President

The first meeting of the American Society of Animal Production ever held at an agricultural college will be held at the Kansas State Agricultural college Wednesday and Thursday, December 22 and 23. Prominent teachers and investigators from agricultural colleges and experiment stations all over the country will attend the meeting.

The sessions will be held here because of the work being done by President H. J. Waters along the line of animal nutrition and the other investigations being made under the direction of the department of animal husbandry. "An excellent opportunity will be offered," writes F. B. Morrison, secretary, in a letter to the members of the organization, "to view the extensive research work in animal nutrition and production which is in progress."

SPECIALISTS WILL READ PAPERS

The complete program for the meeting has not yet been made up. Papers will be read, however, by leading experts in various phases of animal production. President H. J. Waters; W. A. Cochel, professor of animal husbandry; and Edward N. Wentworth, professor of animal breeding in the college, will all make addresses.

The American Society of Animal Production is one of the most prominent scholarly organizations in American agriculture. The meetings heretofore have been held in Chicago or Washington, D. C. The present officers of the society are: president, E. B. Forbes, Ohio Experiment station, Wooster, Ohio; vice president, W. A. Cochel, Kansas State Agricultural college; secretary-treasurer, F. B. Morrison, University of Wisconsin, Madison, Wis.

TRACTION ENGINE WORK GETS FARMERS' INTEREST

Practical Training Will Be Given in Farm and Home Week Next Month

The traction engine training to be given in the engineering course during Farm and Home week at the agricultural college December 27 to 31 is attracting much interest from farmers who own traction engines or are contemplating their purchase.

Lectures and discussions of traction engines will be led by professors of the engineering division, as well as by representatives of manufacturers. Demonstrations with stationary and traction engines will be a feature of the course. Dean A. A. Potter, who planned the program, has spared no pains to make these demonstrations practical and attractive.

In addition to traction engine work there will be lectures and demonstrations in selection of material and machinery for concrete construction, and in the general uses of concrete on the farm. There will also be lectures and demonstrations on planning country homes and the uses of electricity on the farm.

CAVES FOR STORING APPLES SAVE MONEY

Grower May Ship Fruit to Place Where Best Prices Are Being Paid, Says Horticulturist

Storage caves for apples in or near the orchard are a means of saving money, according to D. E. Lewis, instructor in horticulture.

"The advantage of such a cave," says Mr. Lewis, "is that the grower may ship fruit to the city which is

TRI-STATE DEBATE

Aggies lose to South Dakota and Ames Friday night

South Dakota wins from Ames

paying the best prices, without paying twice for the shipping.

"For example, I oversaw the construction of a cave in a Michigan orchard this summer, the owner of which had been shipping his apples to Chicago for storage. Often the Chicago market would be overcrowded and the price of apples would diminish. The best price would frequently be in some eastern city and in order to take advantage of it, the apples that had been shipped west to Chicago would have to be shipped back east. A double transportation expense was thus necessitated. With his local storage plant, this Michigan grower can take advantage of the best prices, whether they be in the east or in the west, without paying twice for transportation.

MANY ASSOCIATIONS TO MEET HERE NEXT MONTH

State Agricultural Organizations Will Hold Sessions in Connection with Farm and Home Week Program

Meetings of the agricultural associations of the state will be an important feature of Farm and Home week at the Kansas State Agricultural college December 27 to 31.

Tuesday, December 28, the Kansas Crop Improvement association and the swine breeders and growers will have their programs. Wednesday the Kansas Horse Breeders' association and the fruit growers will have their respective programs. Thursday the Kansas State Dairy association and the sheep breeders will meet and Friday the beef producers and the Kansas Poultry federation.

On every one of these programs will be prominent men not only from this state, but from other states. Prof. A. R. Whitson, who is in charge of the soils work at the agricultural college of the University of Wisconsin, will appear on the program of the Crop Improvement association; Dean W. L. Carlyle, of the agricultural college of Oklahoma, who is considered an authority on live stock matters and who was in charge of the judging contests at the Kansas City Royal show, will be on the horse breeders' and the sheep breeders' programs. C. T. Graves, a prominent dairyman of Maitland, Mo., will meet with the dairymen. A. G. Philips, professor of poultry husbandry in Purdue University, will address the poultrymen. An effort is being made to procure the secretaries of both the American Shorthorn Breeders association and the American Hereford association to appear on the cattlemen's program Friday.

MANHATTAN PEOPLE WILL JOIN IN COMMUNITY SONG

Festivals Already Arranged for Thanksgiving and Christmas

The first "community sing" undertaken in Manhattan will be held at the Methodist church next Tuesday under the direction of A. E. Wesbrook, professor of music in the college. The event will be under the auspices of the Manhattan Christian brotherhood. Home and patriotic songs appropriate to Thanksgiving, will be sung, with R. H. Brown, assistant professor of music, at the organ.

Another "community sing" is planned for December 17, when music suitable to Christmastide will be used.

Members of the football team of the Norton county high school attended the Aggie-Oklahoma game Friday afternoon.

HONOR SOCIETY ENTERS

DR. EDWIN ERLE SPARKS INSTALS CHAPTER OF PHI KAPPA PHI

New Organization Will Elect 10 Per Cent of Senior Class to Membership Each Year—Present Members Are from Faculty of College

The most conspicuous honorary organization that has entered the Kansas State Agricultural college was installed here Monday, when Dr. Edwin Erle Sparks, president of the Pennsylvania State college and grand president of Phi Kappa Phi, formally placed a chapter of the society in the institution.

Phi Kappa Phi is the only honorary fraternity representing all lines of study. It stands exclusively for scholarship. Not more than 10 per cent of the seniors in each division of the college each year will be chosen to membership.

The present members of the local chapter are members of the college faculty. President Henry Jackson Waters and Professors Edward N. Wentworth, R. I. Throckmorton, and N. E. Olson are already members of the society, having been initiated at other institutions. Mr. Olson assisted Doctor Sparks in the initiation ceremonies.

The other members of the chapter are Deans J. T. Willard, W. M. Jardine, C. M. Brink, A. A. Potter, E. C. Johnson, and Mary Pierce Van Zile; and Professors J. D. Walters, B. L. Remick, J. W. Searson, H. F. Roberts, N. A. Crawford, J. R. MacArthur, Albert Dickens, R. R. Price, J. E. Kammyer, J. V. Cortelyou, A. E. Wesbrook, J. O. Hamilton, L. E. Conrad, L. A. Fitz, R. A. Seaton, O. E. Reed, W. A. Lippincott, W. A. Cochel, Bessie Webb Birdsall, L. E. Call, George A. Dean, R. K. Nabours, L. W. Goss, R. R. Dykstra, C. E. Reid, M. F. Ahearn, E. H. Reisner, J. E. Ackert, H. W. Brubaker, J. W. Good, Mary T. Harman, Paul S. Welch, E. C. Miller, J. H. Merrill, and A. G. Hogan. Dr. F. S. Schoenleber and Prof. E. L. Holton, members of the petitioning body, were absent from the city and were therefore unable to be present.

SPARKS IS GUEST OF HONOR

Doctor Sparks spent the afternoon and the evening in Manhattan, being the guest of Doctor and Mrs. Waters. In the afternoon he made a tour of the college grounds and later was a guest of honor at a reception to the members of the faculty and to the senior class. He addressed a dinner given in his honor by Alpha Zeta, honorary agricultural fraternity.

The installation ceremonies of Phi Kappa Phi took place in the evening, followed by a banquet with Doctor Sparks as the guest of honor. Dr. J. R. MacArthur, associate professor of the English language, presided as toastmaster. President Waters spoke on "Scholarship and the Fraternity;" W. M. Jardine, dean of agriculture, on "The Fraternity and the College;" A. A. Potter, dean of engineering, on "The Fraternity and the Individual;" and Doctor Sparks on "Fraternity and Democracy."

Founded nearly 20 years ago, the society now has 20 chapters. Among the institutions represented are the universities of Maine, Florida, Nevada, and Tennessee, and the state colleges of Delaware, Iowa, North Dakota, Pennsylvania, Massachusetts, and Kansas.

FARM BUREAUS PROVE BIG HELP TO KANSAS COUNTIES

Eradication of Hog Cholera Is Important Line of Activity

The advantage of a farm bureau for a county is being proved in the counties where bureaus are at work. In Harvey county F. P. Lane, county

AGGIES LOSE

Score of yesterday's game:

OKLAHOMA 21

AGGIES 7

STATES SEEK LOCAL PLAN

INSTRUCTION SYSTEM DEVISED BY POTTER GETS COMMENDATION

Stationary Engineers of Kansas Obtain Valuable Extension Courses from College—Experts Visit Students and Give Practical Advice

agent, was called recently to a farm where the hogs had been taken sick. The trouble proved to be cholera. On the suggestion of the agent the farmer sold his fat hogs at once, as a shipper happened to be shipping that day to Wichita. The sows, pigs, unsalable hogs, and ailing ones were treated with serum. The work was completed on the one day and the loss to that farmer from cholera will be negligible.

From Linn county comes the report that since the farm bureau engaged in hog cholera eradication work, 125,000 cubic centimeters of serum have been used and hundreds of dollars worth of hogs have been saved for the farmers. Farmers who before the bureau took up the work did not care to disclose the fact when their hogs became sick now report it immediately and save their herds by vaccinating them.

ENGINEERING FIRM PAYS WOMAN TO FOOL SPIDERS

St. Louis Man Tells College Students How Web for Making Transit Wires Is Obtained

Those who have looked through an engineer's transit probably never have guessed that the cross wires seen were manufactured by a black spider.

According to A. W. Keuffel of St. Louis who addressed the engineers Wednesday, the Keuffel and Esser company employs a woman whose sole business it is to fool spiders into giving away their supply of web. Spiders are furnished her by the neighborhood children at a nominal price. Taking advantage of the fact that spiders invariably hunt a corner, she has arranged a corner on a table in her laboratory. When Mr. Spider is liberated and starts for the corner, he is obliged to hop over a spindle which catches one end of the web. As he proceeds, the lady in charge winds up his web. As high as 30 feet of spider "hair" has been taken from a spider in one piece and this is considered a good joke on the spider.

TRAINING OF THE BRAINS IS OF UTMOST IMPORTANCE

Prof. E. N. Wentworth Speaks in Chapel on "Applied Science"

The training of the brain and not of the hands is the factor which is of greatest importance in education in our present civilization, according to Edward N. Wentworth, professor of animal breeding and former associate editor of the Breeder's Gazette, who talked Friday morning to the student assembly on "Applied Science."

"Civilization has become so complex that it is absolutely necessary that a man have a specific vocation by which he may earn a sufficient amount for a comfortable livelihood," said Professor Wentworth. "The man who makes his vocation a science in the right manner and strives to learn the principles of his vocation is on the right path, for fundamental knowledge is the most practical knowledge. Science is but the application of our knowledge of nature to our surroundings and to our lives."

Professor Wentworth spoke of the importance of broad training and intensive studying. He quoted statistics showing that the men who had never graduated from common school received an annual wage of \$400; those graduating from common school, \$800; while the college graduate received an average wage of \$1,500.

The Ionian Literary society will entertain the Hamilton society with a home-coming party tonight.

A. A. Potter, dean of the engineering division in the Kansas State Agricultural college, has worked out an extension course plan for stationary engineers of Kansas which is proving so successful that it is on the point of being duplicated in other states. Although the plan was put in operation only last July, 600 stationary engineers are taking the work.

The engineering department is working in co-operation with the National Association of Stationary Engineers, which has a membership of between 30,000 and 40,000. Sixteen local organizations in Kansas cities are in on the proposition. These cities include Topeka, Atchison, Great Bend, Parsons, Fort Scott, Wichita, Chanute, Kansas City, Leavenworth, Manhattan, Pittsburg, Fredonia, Neodesha, Concordia, and Hutchinson.

FINAL EXAMINATION IS GIVEN

An educational committee, consisting of two members, has charge of the extension work in each organization. Every three months a set of five lessons, together with examination questions on the important points, is sent out. Final examination questions covering the entire course are furnished. This test is conducted by the educational committee. No grades are given.

Once in three months an expert from the college department of engineering spends a day or more in each of the towns where the extension work is done. He visits each engineer in the course of the day, and in the evening gives an informal talk before members of the local organization, bringing out in discussion the weak points in the methods employed by the individuals.

Expenses of the college engineers are paid by the respective organizations. It is proving an inexpensive means of procuring expert advice.

BENEFITS EMPLOYERS AND ENGINEERS

"The engineers find out from an unprejudiced source if they are getting the best possible results from their respective power plants," said Dean Potter in commenting upon the plan. "They get into the habit of studying systematically."

"The benefit to the employer arises from the fact that the efficiency of plant operation is increased. One employer said there had been a marvelous improvement."

"Then the teachers who go on these trips have the opportunity of getting acquainted with conditions in operating plants over the state, and this increases their teaching efficiency. They get into touch with the men who have to show results, and get their viewpoints."

STUDENTS MAY SEE EVERY PART OF EDISON BATTERY

College Receives Exhibit Free—Providence Firm Presents Modern Tools

The Edison company has presented the electrical engineering department with an exhibit which shows separately all the parts of the Edison storage battery. There is also a complete cell assembled with a portion of the shield cut away so as to show exactly how the cell looks when put together. This was a free gift with express charges prepaid.

The Brown and Sharp Manufacturing company of Providence, R. I., has presented the mechanical engineering department with an exhibit case showing the latest types of tools, of which there are more than 100 kinds.

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N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

Except for contributions from officers of the college and members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism. The mechanical work is done by the department of printing. Of these departments Prof. N. A. Crawford is head.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

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SATURDAY, NOVEMBER 20, 1915

It is beginning to get as cold as it was in midsummer.

"Good roads are in the air," remarks a contemporary. That's just the trouble—too many of them are.

An association of editors in Illinois has determined to emphasize agriculture in news and features. Why not? Agriculture is the big industry of the middle west.

The entrance of Phi Kappa Phi into the college will give students another incentive to study—and study, in spite of what some modern writers have said about it, proves considerable value to the average student.

A RECOGNITION OF THE COLLEGE

It is a special honor to the college that the American Society of Animal Production has decided to meet here in the first departure from its custom of holding its annual sessions in large cities. It is particularly gratifying that this action comes as a recognition of the high quality of the experimental and investigative work being done at the institution in the field of animal production.

Not only in this line of activity, however, but in many other lines the college is taking a high place among American institutions. In conversation this summer with men interested in college work, the writer was interested in observing that a number of them spoke in high terms of the investigative work being done in the Kansas State Agricultural college. Though none of them were Kansas men, they were apparently thoroughly familiar with the work in progress here.

This situation will be of distinctly practical benefit to the people of the state and of the country as a whole. For a good while knowledge of agriculture among most people was so slight that the colleges had about all they could do to tell the people what had already been discovered and proved. With the increased intelligence of farmers and the increased interest in agriculture among all people, it has been necessary for the college to make further investigations in agriculture to obtain facts not heretofore known. From now on it is by these means that agriculture in this country will chiefly be improved.

SUPPRESSING FACTS

A well known journalist remarked in a recent address that the suppression of news was worse than the misrepresentation of it.

An example of news suppression is evident in a recent dispatch concerning a young man seriously injured in a Missouri fraternity initiation. It seems a part of the initiation required the young man to steal a ride on a railway train. In the course of this piece of foolishness the youth was so badly injured that the amputation of one foot was necessary.

The story does not give, nor does THE INDUSTRIALIST know, the name of the fraternity which is responsible. Now that is just what the story should give. It is a matter of interest and importance to the public. If there is in any institution a fraternity chapter

which requires an initiate to violate the state law and endanger his own life, the public should know it, at least for the protection of such persons as might otherwise consider becoming members of the organization. It may be argued that this would reflect on the standing of other chapters of the same fraternity elsewhere. If the national organization does not immediately withdraw the charter of the offending chapter, however, it has no standing worth considering.

BOOKER T. WASHINGTON

The life and work of Booker T. Washington, who has just passed away, are of special interest to the land grant colleges of the United States, for he was endeavoring to introduce to his own people, withal in a more elementary way, the general type of training for which the land grant institutions have stood.

Agriculture and the mechanic arts are the fundamental subjects for which the land grant institutions were established. They were likewise fundamental in the system of education devised by Washington for the members of the negro race. Work of this sort does not necessarily require genius. It does require sanity of outlook and sound common sense. These Booker T. Washington possessed in unusual degree. He was not the greatest genius of his race but he was the man whose work has accomplished probably the largest amount of good for his people and will merit and obtain the highest esteem. Education is one of the most valuable functions a man or woman may perform.

RECENT BOOKS

Taylor, Raymond G. Outlines of American Industrial History. Pp. 91. Manhattan: Department of Printing, Kansas State Agricultural College. 25 cents.

The story of how human strength and ingenuity transform natural resources into wealth is told in brief in "Outlines of American Industrial History" by Raymond G. Taylor, assistant professor of history and civics in the Kansas State Agricultural college.

"These outlines," the author declares in the preface, "are intended to furnish a guide for an orderly and fairly exhaustive study covering the whole field of the industrial development of the United States." In the introduction, the author discusses the nature and scope of industrial history and tells of the methods by which the outlines and available helps may be used to best advantage. He shows just how to take notes on assigned readings, and how best to use pictures, charts, maps, and current magazines in the study of industrial history.

Twenty-seven outlines, each carefully systematized and supplemented by well-selected reading references, cover the period from the early settlements down to the present.

The European conditions in agriculture, manufacturing, and commerce at the time of the settlement of the American colonies; the business aspects of colonization; colonial agriculture, manufacturing and commerce; the industrial aspects of the American revolution; westward expansion and the resulting economic and industrial problems; the growth of population; the increase in domestic commerce and transportation; the development of foreign trade; and the social and industrial problems which grew out of rapid expansion and development, are some of the representative topics developed in the outlines.

The work shows the author's broad grasp of the subject, painstaking scholarship, minute attention to detail, and the warm personal touch of a real teacher. Every teacher of history who desires to give a real economic and industrial flavor to his work will find it profitable to place a copy of these outlines in the hand of every student.

The definite program of attractive industrial study, if followed, will bring the pupils face to face with the most useful and fascinating realities in race development.

KANSAS CATTLE TESTS

The extensive cattle feeding tests in Kansas are yielding farmers a fund of information of immediate practical

value. Already grazing is largely giving way to feeding in Kansas. Kansas cattle are coming to market fat instead of lean; farmers are finishing their product at home. In undertaking to switch from grazing alone to raising and fattening beef the rancher does not face much risk of uncertainty. The tests at the experiment station with his own feeds show just how results develop. On account of the large numbers of animals included in the Kansas

the crowd, however interested he may be as a friend or even as a former student. We cannot entertain all our new friends, much less the general public, and so invite only those named above.

Some time ago Professor Walters was requested by Mr. Sam Kimble, attorney at law, to secure an original design for an iron front gate for the residence of the latter on Poyntz avenue, by enlisting the interest of advanced students in a \$5 competition. Four de-

The Newspaper and Social Conscience

James Keeley, editor of the Chicago Herald

With social conscience on the job the newspaper will not confine its energies to printing the news (accurately) and commenting editorially (also with accuracy) on men and measures. It will initiate helpful movements and fight to carry them to a successful issue. It must be of service today, not only in politics and morals, but in aiding in the solution of problems that are part of the daily life of the people. It must not only urge the public to swat the crook, but should plead with them to swat the fly. It must not only fight for a clean city administration, but must fight alongside those who are preaching the doctrine of a clean home. It must not only decline to receive the dirty dollars that come from lying, murderous medical advertising, but it should teach the people how to keep well.

There has been a great forward movement along these lines in the last decade. The average newspaper in America today is a clean paper, an honest paper. There are not many examples left of Virtue on the editorial page and Vice in the advertising columns. The advertiser of honest goods doesn't like to sit in the same pew with the quack, the loan shark, the mining swindler, the oil pirate, and the merchandise faker. And, in the long run, he is going to be the broom that will sweep the few remaining Augean stables.

There is no better investment than a single standard of honor, honesty, truth, and integrity from the title to the last agate line on the back page. Truth, cleanliness, and decency are the greatest dividend payers on earth.

I have little sympathy with the myopic individuals who believe, or rather say, that if nothing were printed about crime, crime would cease or decrease. They are wrong, absolutely wrong. The punishment of public opinion often is more potent and dreadful than that imposed by judge or jury.

I believe suppression of news is more of a wrong than the printing of a piece of news that possibly might better not have been written. By improper suppression a newspaper sells its soul and betrays its readers. To my mind it is the high treason of journalism. No paper that permits its advertisers or the personal, social, and financial friends of the editor to control or taint its news and editorial columns ever has become a big newspaper.

The newspaper of today occupies the position of the herald of old. In ancient days the ear held reign and the sphere of influence was limited by aural range. The eye has been enthroned and the whole world is our field. In ooden times the mightiest voices reached thousands but fell silent within the mile. Our silent voices defy distance and seek our myriads behind brick walls. We talk to those who never see us. The thunder of our presses dies away, but it has bred a billion living tongues.

Our responsibilities are great because our power is so immense. Forget the former and the latter wanes.

tests their guidance should be dependable. They fit present day problems of the feeder.—Breeder's Gazette.

A QUARTER CENTURY AGO

Items from the Industrialist of November 22, 1890

An occasional new student drops in even at this late date.

The seniors spend two hours a day in psychology this week.

Thanksgiving day will be observed as a holiday by the college.

Assistant Breese has received from the signal service a lot of elaborately ruled blanks for keeping the anemometer records.

The new walk from the college to Manhattan avenue is making excellent progress, and will be a great convenience when completed.

Frank Waugh and G. W. Wildin, fourth-year students, are assisting Professor Lantz in charge of the surveying squads of the third-year class.

The college social on Thanksgiving evening is necessarily confined to college officers and employees with their families, students now in college with their parents, and graduates. A moment's thought will show that these

alone make a possible gathering of 700 people, and no one will want to add to

signs were submitted. The following is an extract from Mr. Kimble's letter to the professor on the result: "I have found considerable difficulty in deciding which of the four designs was the best, for the reason that they are all good: but find the design of Mr. Wildin so purely original, and so completely filling the purpose for which I wished the design drawn, that I have been constrained, though with some doubt, to decide in favor of him. I wish, however, to speak with particular favor and approval of the work and design of Mr. W. T. Taylor.

While not intending in any sense of the word to speak with any disapproval of the work of the other two gentlemen, for simplicity and neatness, combined with strength, I have regarded the design by Mr. J. O. Morse a most excellent one. The boys have all done extremely well, and my only regret is that I am unable to give each one of them a prize for their work: but hope that the experience they gain from it will be some compensation to them for the labor performed."

A call for track candidates will be issued after the Thanksgiving holidays by Carl J. Merner, coach. Suits have been ordered. An indoor meet will be held prior to the holidays.

OZYMANDIAS

Percy Bysshe Shelley

I met a traveler from an antique land
Who said: Two vast and trunkless
legs of stone
Stand in the desert. Near them, on
the sand,
Half sunk, a shattered visage lies,
whose frown,
And wrinkled lip, and sneer of cold
command,
Tell that its sculptor well those pas-
sions read
Which yet survive, (stamped on these
lifeless things,)

The hand that mocked them and the
heart that fed:
And on the pedestal these words ap-
pear:

"My name is Ozymandias, king of
kings:

Look on my works, ye Mighty, and
despair!"

Nothing beside remains. Round the
decay
Of that colossal wreck, boundless and
bare
The lone and level sands stretch far
away.

SUNFLOWERS

A revenue tax ought to be laid upon
non-committal remarks.

FAVORITE GYMNASTIC STUNTS

"She laid her head coyly on his
shoulder, lifted her face temptingly
to his.—Lincoln (Nebr.) State Journal.

A MODERN BO-PEEP

Little Bo-Peep she lost some sleep
And made no attempt to find it;
Let it alone, and it will come home
Dragging a headache behind it.

WHERE THE WEST IS STILL WOOLY

Classes in surveying at the University of Montana, in addition to carrying transits, rods and chains on field trips are now equipped with rifles. A few days ago students in one of the classes while on a field trip, saw a large timber wolf, a deer, a flock of grouse, and two snowshoe rabbits.—Montana News-Bulletin.

THANKSGIVING THOUGHTS

We should all be thankful
That we are not dead,
That we do not have to dodge bullets,
That Zeppelins do not bother us,
That we are not Belgians nor Serbians,

That we do not live in Mexico or
Europe,
That the Turks do not massacre us,
That we are not starving to death.

But we should be careful
Not to attribute our good fortune to
our righteousness,
Not to forget to feel sorry for those
who are less lucky,

Not to think that we are the only sensible
folks on earth,
Not to be smug and complacent,
Not to imagine ourselves immune
from war and misery,

Not to get the notion that the ultimate salvation of the human race depends entirely upon us.

FARM WAGES IN NEW ENGLAND

Farm hands in New England receive on the average \$25.15 per month and board for 9 hours and 41 minutes work per day. This is an increase of 36 per cent in the last twenty years. The increase in wages in manufacturing industries during that time was only 23 per cent. This greater gain in rural wages has tended to check the urban movement of the rural population. According to United States government figures the average monthly wage for farm labor, board included, in Maine and Massachusetts is \$25.50; in New Hampshire, \$24.70; in Vermont, \$26.30; in Rhode Island, \$25; and in Connecticut, \$23.90. Without board it runs from \$42 in Massachusetts to \$36 in Maine, with an average of \$38.71. Day wages are highest at harvest time, a little over 30 per cent higher. Once harvest wages were 60 per cent more than at other seasons. The average wage rate with board during harvest time is \$1.62 and without board \$2.05.—American Cultivator.

AMONG THE ALUMNI

Miss Mable Broberg, '12, was in Manhattan visiting friends last Sunday.

Miss Esther Zeininger, '15, spent the week end at the Delta Delta Delta house.

Miss Pearl Akin, '05, is teaching home economics in the Wood River, (Ill.) high school.

L. L. Bouton, '11, is teaching electrical engineering in Purdue university, West La Fayette, Ind.

Miss Mary Johnson, '15, visited college last week end and attended the Hamp-Io joint meeting.

Miss Julia M. Baker, '14, likes her work as an English teacher in the high school at Lewiston, Ida.

George Baird, '15, is visiting in Manhattan. He is with the Westinghouse company in Pittsburgh.

L. E. Hutto, '13, is making a decided success teaching gymnasium work in the Escanaba (Mich.) high school.

Robert Deitz, '85, has returned to his home in Kansas City, Mo., after an extended automobile trip through Iowa.

George Haas, '14, who is practicing veterinary medicine in Portland, Kan., visited college friends Saturday and Sunday.

W. N. Birch, '04, has removed from Orosi, Cal., to Twin Falls, Ida., where he has taken up work as county agent for Twin Falls county.

Miss Etta Sherwood, '12, who is teaching at Cawker City, visited in Manhattan with her sister, Miss Virginia Sherwood, Sunday.

Miss Lulu Case, '11, has resigned her position in the Haskell institute at Lawrence. She expects to attend college the remainder of the year.

Jack Richards, '15, who has been teaching at Ivanhoe, Minn., has resigned his position. He expects to be in Manhattan Thanksgiving time.

Robert R. Green, junior in 1912-'13, at present teacher of manual training and drawing in the schools of Arkansas City, visited the college recently.

Born, to Mr. L. L. Bouton, '11, and Mrs. Bouton, West La Fayette, Ind., a son, Maurice Noel. Mrs. Bouton was formerly Miss F. Myrtle Hayne.

Miss Winifred Neusbaum, '14, and N. M. Hutchinson, '14, are teaching in the high school at Ramona, Okla. This is their second year of teaching there.

A. E. Davidson, '13, who was recently elected to teach agriculture in the State Normal school at Warrensburg, Mo., is making a decided success of his work.

Stanley A. Combs, '12, is in the dairy farming department of the North Carolina Agricultural Experiment station. He is at present stationed at Greensboro.

E. G. Sanders, '13, is on detail work for the Santa Fe railway in Arizona. He will spend the next three months in making investigations of the cost of hauling freight.

Miss Wilma Orem, '10, who is attending the University of Michigan, Ann Arbor, reports an enrolment of more than 5,000. She is specializing in history and is working toward her master's degree.

The Sunday Oregonian, published at Portland, Ore., contains a very handsome front elevation of a \$105,000 labor temple, planned by L. Dougan, of that city, who was a junior in the architectural course of the college in 1910.

MAY SEND A K. S. A. C. MAN TO CANTON, CHINA

Movement Is Started to Help the Canton Christian College in Its Work

The question of the advisability of co-operating with the Canton Christian college of China in its work was discussed Thursday morning by a group of students and faculty members. The

suggestion was made that a representative of this institution be sent to the college.

"When I visited the Canton Christian college, the institution gripped me with the force of its worth and the importance of the work it was doing," said Dr. H. J. Waters, president of the Kansas State Agricultural college. "I thought then that if my work was so that I had a year's leave of absence, I would offer myself to the institution for that time.

"We can't stop with only giving religion to the Chinese but we must give them practical things which will aid them in living the kind of life that we are pointing out to them that they should live. Canton Christian college is doing these very things, and I intend to do my part in helping to send a representative to their faculty from this institution."

Prof. H. F. Roberts, head of the botany department, pointed out that it would not require any great individual effort on the part of the student body and faculty to send a representative from here. A budget of \$1,000, or \$2 each from a possible 500 who would be interested in such a great honorary credit to the college, would pay the yearly salary.

"It is befitting," said Professor Roberts, "that we of a liberty loving nation with high ideals and morals, should have such a representative in this college, which is such a great factor in shaping the morals of China.

"The question is often asked, 'how to deal with the foreign mission more properly when there is so much work of a like character among our own people.' China presents a peculiar situation. Three hundred millions of people are just coming into contact with civilization. It is not alone our privilege, but our duty, to aid them in shaping their morals.

"Japan is also a nation which has lately come into prominence—into the light of civilization. It is unnecessary to go into detail, but people who have visited Japan will corroborate my statement that though Japan has all the machinery of civilization, the people have no moral restraint. It should be our aim to help China in her moral development, that the mistakes of Japan may not be repeated."

A second meeting will be held soon to further discuss the question of sending a representative from the Kansas State Agricultural college to the Chinese institution.

WHAT ELEMENT IN MILK

WEAKENS CHICKEN BONE?

Poultry Department to Make Investigations on Practical Subject

Milk feeding betters the quality of the flesh of a bird, but it weakens the bones, according to F. E. Mussehl of the poultry department. The department expects to find out just what chemical element in the milk causes the weakness.

KANSAS HOME MAKERS' CLUBS SHOW INCREASE

Richmond Organization Attracts 60 Women for All-Day Session

Home makers' clubs in Kansas are increasing in numbers and in strength very rapidly. At Richmond, at a meeting of the club November 3, more than 60 were present for an entire day. This club is now actively working to secure a poultry school.

There will be no school next Thursday, Friday, and Saturday—Thanksgiving holidays.

New machinery has been installed in the engineering shops for bending and forming sheet metal.

President Henry J. Waters has officially announced that Sunday dinners at the cafeteria will be discontinued because of lack of attendance on the part of students.

The geology class under Dr. R. K. Nabours, professor of zoology, will go on a "hike" this afternoon for the purpose of studying geological formations in the hills near Manhattan.

SAVE MONEY ON MEAT

CLUBS AND BUTCHERING BEES ARE MEANS OF ECONOMY

Neighbors May Join Together at Time of Year When Farm Work Is Not Heavy
Some Market Stock to Consumers in Small Towns

That the restoration of the old-fashioned butchering bee would mean money in the pockets of Kansas farmers because of the present tendency to buy foods already prepared for the table, is the contention of A. M. Paterson, assistant in animal husbandry in the Kansas State Agricultural college. Meat clubs are urged as a means of reducing the cost of living.

"There are many reasons why every farmer should kill and cure his own meat," says Mr. Paterson. "First, it is cheaper. If we should take a dressed animal and figure all the cuts at the local butcher's retail prices we should be surprised to see how quickly the cost would run up to more than the market price of the live animal.

"Butchering can always be done at a time of the year when the farmer is not crowded with his work, and neighbors are willing to exchange help, usually making a sort of holiday out of the occasion. In most vicinities butchering is looked forward to with great pleasure. Those who have been brought up on the farm remember the big dinners and happy occasions when three or four families were gathered for a butchering bee.

GETS GOOD QUALITY OF MEAT

"One of the best arguments for home butchering is the fact that one knows what kind of meat one is eating when one has killed it oneself. It cannot be denied that farmers sell their best stock on the market, and the local butchers usually get the leftovers."

In fact, it is this cheaper grade of animals that the local killer looks for, says Mr. Paterson. Furthermore, if packing house meat is bought at the stores, it is not the best, for the choicest product is sent to the best hotels or is shipped for export trade.

The new methods of curing meat have been so perfected that there need be no fear of having any spoil. Any one with average intelligence can handle the curing of meat with 100 percent efficiency.

Another advantage is that the meat is always at hand when needed. The housewife has only to go to the meat chest to get just what she wants. Many farms are necessarily at a distance from town and during busy seasons time is an important factor with the farmer and trips to town are infrequent.

PRODUCT FRESH EACH WEEK

In some communities meat clubs are being operated successfully. These are usually composed of eight members, and one animal is killed each week, each member receiving an equal share. An animal is divided into the same eight parts each week but no one member gets the same part twice. The clubs are usually operated during the fall and winter months. The big advantage of these clubs comes from having choice fresh meat every week.

In some of the smaller towns the people find it cheaper and more satisfactory to buy their meat on foot from the farmer and pay him for killing and curing it. There are many farmers who find this a profitable way of marketing their stock.

Again, some farmers make a practice of killing more hogs than they can use but sell their surplus at the local groceries. This surplus generally consists of bacon and lard, for many farmers feel that they don't have to eat "fat meat."

ANY CITIZEN MAY PURSUE COLLEGE READING COURSE

List of Work Comprises 220 Subjects, with Comments and Questions

Reading courses, based on free bulletins and open to all citizens of the state are being launched by the department of home study service in the division of extension, Kansas State Agricultural college, under the direction of M. G. Burton.

There are already on the available list 220 definite, practical subjects, each covered in one bulletin and one assignment. The assignments consist of comments and questions compiled with a view to emphasizing the most important points in the bulletin.

A series of questions will be provided which will be answered by each person taking a course. These answers will be graded, commented upon, and returned to the sender.

HOME NURSE MUST TRY TO PREVENT DISEASE

Agricultural College Expert Tells of Modern Requirements—Patients Need Sunlight, Air, and Quiet

The home nurse must keep pace with science and do preventive nursing in the home, asserts Miss Lulu Kennedy, instructor in home nursing in the Kansas State Agricultural college.

"Despite the strongest barriers yet devised, disease cannot always be kept out of the house," says Miss Kennedy. "The care of the sick belongs to the woman. This does not mean that she should fit herself by professional training, but it does mean she should learn the simple and valuable lessons for the care of the sick in her home.

"The home nurse must know the normal body and be able to recognize abnormal conditions. It is not the province of the nurse to know how to treat disease. It is her duty to get advice from some reliable physician and to carry out his instructions to the smallest detail."

There is nothing that the nurse does for the patient, which, if wrongly done, may not cost the patient his life, says this expert. To make sure it is safe for you to act as nurse, ask the advice of your physician. Such critical diseases as typhoid fever or pneumonia call for skilful nursing and not the experimental nursing of the amateur.

It is important that the home nurse know the requirements of her patient. The three essential requisites are sun, fresh air, and quiet, says Miss Kennedy.

The sick room should have plenty of window space. A southeast room is preferable since the sun may shine into the room in morning and afternoon. Sun and fresh air purify polluted air better than any disinfectant.

"Quiet is essential and aids greatly in the healing forces employed in building up wasted tissue," explains Miss Kennedy. "Do not admit any more visitors than is absolutely necessary. The excitement will not be best for the patient, however pleasant it may be."

"Be accurate in reporting all symptoms to the physician. Do not draw conclusions—that is the work of the physician. Coöperate with the physician in every way possible."

The sick room should contain only such pieces of furniture as will be used daily, contends Miss Kennedy. There should be no dust catching ornaments and draperies. The floor should be bare except for such small rugs as may be needed. Thus it is possible to remove the rugs from the room for sweeping and avoid dust.

The home nurse should keep in touch with all health movements. Today there are numerous crusades, organized for the purpose of preventing and caring for disease. There are lectures and bulletins that are invaluable to the home nurse. It is well worth while for her to coöperate with the physicians and trained nurses of the country in the prevention of disease.

GOVERNOR CAPPER TO LEAD MEN'S MEETING

Will Take Charge of Final Session in Robins-Childs Series

Arthur Capper, governor of Kansas, will lead the closing Sunday afternoon meeting of the Robins-Childs series at the college January 9.

Raymond Robins needs no introduction. J. L. Childs is a graduate of the University of Wisconsin and an enthusiastic Young Men's Christian association man.

TO MAKE FARM EXHIBITS

BOYS AND GIRLS WILL SHOW PRODUCTS GROWN BY THEMSELVES

Bankers and Crop Improvement Association Offer Prizes—Grains and Garden Truck Are Included in Contest Classes—Records and Stories Required

Club boys and girls in all parts of Kansas are planning to enter products grown by themselves in the exhibit in connection with Farm and Home week at the Kansas State Agricultural college, December 27 to January 1. Liberal prizes will be paid by the Kansas Bankers' association, according to announcement by Edward C. Johnson, dean of the division of extension.

With the exception of wheat, apples, pumpkins, and squash, making exhibits will be open only to bona fide club members.

Exhibits must reach Manhattan not later than Monday evening, December 27. Records and stories required in the contests should be sent to Otis E. Hall, extension division of the college, on or before December 15. Exhibits may be sent, prepaid, by parcels post or express when it is impossible to bring them in person.

Corn should be wrapped in paper, each ear separately. Care should be used in packing fruit jars. Use of a small box or pail is suggested.

WINNER'S NAME ON CUP

As a prize to the boy whose 10 ear exhibit of corn wins sweepstakes, \$5 in cash will be given by the State Bankers' association, and as a recognition of honor the Kansas Crop Improvement association will have this boy's name neatly engraved on the attractive silver loving cup which has been purchased by this organization.

Each corn exhibit must consist of 10 ears. Prizes ranging from \$1 to \$5 are offered.

A special prize of \$5 is offered as a sweepstakes reward to the boy who exhibits the best 10 heads of grain sorghums.

The wheat contest is open to any boy or girl in Kansas between the ages of 10 and 18 years. In this instance the exhibit may be purchased, borrowed, or grown by the exhibitor, but it must come from the exhibitor's home county.

FIRST-CLASS FARMER MUST BE BLACKSMITH

Knowledge of Iron Is Requisite to Complete Success, Say Professors in Agricultural College

Knowledge of blacksmithing is classed as one of the requisites of a successful Kansas farmer by professors in the Kansas State Agricultural college.

A man who has had practice in forging will save many dollars in repair bills. He will weld a broken rod or shaft in a few minutes and lose little time and no money. His neighbor who cannot forge will have to stop work and take the broken piece to the town blacksmith, losing much valuable time and adding a repair bill to his expense account.

The man who knows iron will sharpen his own plowshares on a rainy day. The man who does not know iron will pay his wise neighbor or the village smith 25 cents for every one he has sharpened. Not only can the trained man repair broken parts but he can with equal skill shape new parts at a price far below that charged by the local repair man.

The business organization of the farm has gained public prominence through efforts to reduce the management and conduct of a farm to a modern and systematic basis. New methods are the direct results of new inventions in farm machinery. In many instances the horse must give way to the tireless and powerful machine and the advent of the machine makes a knowledge of machine construction a necessity.

The foundation upon which to build an understanding of machinery is a knowledge of the properties and peculiarities of iron.

Inter-fraternity basketball is all the rage among the students.

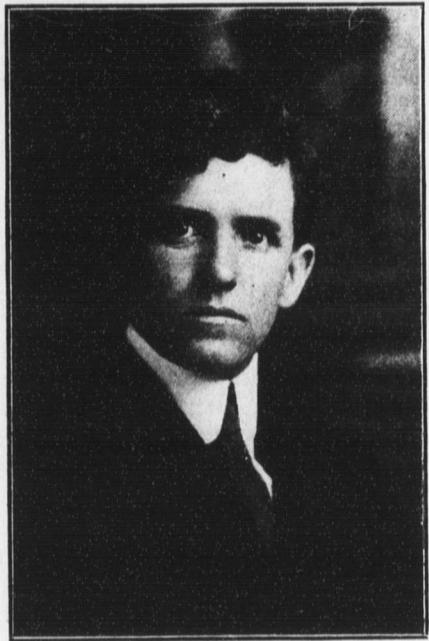
GOOD HOMES WILL HELP STOP EXODUS FROM FARM

PROF. W. A. ETHERTON EXPLAINS PURPOSES OF NEW COLLEGE WORK IN RURAL ARCHITECTURE—RESIDENT OWNERSHIP MAKES PROBLEM EASIER IN KANSAS.

Better rural homes will be one of the important factors in stopping the exodus from the farms to the cities, in the belief of W. A. Etherton, the new professor of rural architecture in the Kansas State Agricultural college. This is the first institution of its kind to introduce this type of work. Mr. Etherton came to the institution from the United States department of agriculture, where he led the movement for modern homes and other buildings on American farms.

Already Mr. Etherton has received scores of inquiries from farmers and others who are interested in the work that he has undertaken.

Mr. Etherton told some of the purposes and plans of his work to the



W. A. ETHERTON

students of the college at assembly this week.

"Notwithstanding the great advancement in agriculture and the many mechanical improvements that have been made," said Professor Etherton, "the farmer has never had his attention directed particularly to the subject of home buildings, and he has no reliable source of information and aid in the matter when most in need of it. On numerous other subjects of less importance, he can find the results of extended research and command without cost the assistance of experts; but, regardless of the fact that we have established and are maintaining at great cost numerous agricultural colleges, none has hitherto provided for this urgent need."

FOSTER SENTIMENT FOR HOME

"If, as has been said, 'the home is the cradle in which is molded the character of the nation,' and if, as has been urged, the purpose of our school system is to make good citizens, then it behoves us, as an educational institution, to begin in the home to perfect there every influence within our power that counts in creating and fostering a genuine sentiment for home. The house with its furnishings, although not the most potent factor in molding the character of children, has a far reaching influence, and it is undoubtedly of prime importance in decision by the young to remain on the farm, or to enjoy the comforts—as it appears to them—of city homes."

"Is it not then, the duty of the state and federal governments to interest themselves as much or more in the housing of the family than in the problems of greater and better crop production and the care of live stock? Is it not as important to devise plans for shortening the thoroughfares and for decreasing the labor of housewives as it is to learn how to build good roads and to lighten the burdens of animals? Are not the health and the comfort of country folk as worthy of being promoted by improvements in farm build-

ings as are the health and the comfort of dairy cattle, sheep, and hogs?"

"Let this important work be taken up and experts be placed in charge of it who will familiarize themselves with the particular needs to be provided for; and then, by illustrated lectures, bulletins, institute discussions, and answers to specific inquiries, let them reveal to the farmer the possibilities for improvements in farm buildings and thus accomplish what we might expect from the manufacturer if suitable buildings could be manufactured and sold at a profit like farm machinery."

ARCHITECTS ARE INTERESTED

Professor Etherton told of the interest manifested by professional architects in the movement undertaken by public institutions for the improvement of rural houses. The work carried on in the department of agriculture, he pointed out, has been specifically indorsed by the American Institute of Architects.

"It is doubtful, however," continued Mr. Etherton, "whether the average architect realizes that the most formidable objects with which we now have to contend in attempting improvements in rural architecture, are the men and women for whom he designs modern, city, and suburban residences. They are the absentee land owners—for instance, the merchant, the lawyer, the banker, the widow legatee, and in some cases, the college professor. These absentee land owners have seemingly failed to comprehend the fact that better housing of employees would pay as well, if not better, in agriculture than in other industries. As they control about one-half the farm land of the United States, it is evident that they constitute an important factor that must be reckoned with in any movement for rural improvements."

GOOD BUILDINGS IN KANSAS

"Happily for Kansas, the greater number of farm homes here are owned by the farmers. To one who has studied rural conditions in other states where tenantry predominates, the difference, there and here, is more than apparent. It was here that the speaker found, in his investigations, some of the best examples of farm buildings. It was here that he obtained some of the most valuable information on, and found the keenest interest in farmstead improvements. It was here that he found good barns, but also houses that are just as good as the farmer knew how to make them with the money that he could consistently spend upon them. Kansas is a comparatively new state, many of its farmsteads are not yet permanently built, the farmers are progressive and able to make improvements, and the spirit for better rural homes is abroad in the land."

"This spirit for better farm homes is in the Kansas State Agricultural college and, originating with the president, as it seems to have done, it is to be hoped that it will, ere long, permeate this student body and, through it, every rural community in the state where it has not manifested itself. The speaker ventures to predict that the day is not far distant when the town girl will think better of the farm home, and the young man with a farm will better appreciate his heritage. Kansas stands today, first among the states in repelling the worst enemy of the home; and may it stand tomorrow foremost in its efforts to make the farm home what it can and of right ought to be—one of the best and the happiest in the world."

EXPERT ASSISTANCE FOR FARMER

"This is not the dream of a visionary. It is well within the realm of possibility; and now, that this college has taken practical steps toward its attainment, it should be more than possible—it should be probable.

These practical steps do not consist of platform efforts, such as the present one, nor of newspaper propaganda, of which there has been a goodly amount; but of such efforts as the division of home economics is making to raise the standards of living within the house, and as the department of rural architecture will endeavor to make to furnish the architectural assistance necessary to the attainment of higher ideals in rural homes and in the improvement of outbuildings and grounds. Beginning thus to furnish the farmer with expert assistance in the improvement of his farmstead, comparable with the assistance furnished along the many lines of agricultural production, we begin, in the most practical, agreeable, and effective manner, to improve farm home conditions and possibly to turn the tide of immigration back to the land.

"The influences that count for the betterment of humanity are so many, so varied, and so subtle and obscure, that it is quite impossible to assign definite values to any one of them, but there can no longer be any question as to the great importance and the necessity of improving the housing conditions of the great mass of humanity in both city and country. 'In the attractiveness of the home lies the true solution of many evils,' and every influence upon the home counts for weal or woe in our national life. Foster love for the home, and there will result an unshakable love for country; stifle it, and anarchy will walk abroad. Study the problems of the home as carefully as the science of war and expend upon them funds as great as those spent upon our armed defense, and we will have a citizenry so strong in body and mind, so prosperous and so loyal as to be invincible to any foe that might then assail us. Better housing in city and country, is of vital importance to the nation's welfare. It has become a problem for statesmen and for the promotion and support of governments. With better houses, we shall have better homes; with better homes, better citizens; and with better citizens, a stronger and a better nation."

DO NOT USE TOO LARGE POTS FOR YOUR PLANTS

Nothing Is More Disastrous Than Over-Potting, Says Professor Ahearn—Only Absorbed Food Counts

"When potting plants in the fall, don't work on the theory that the larger the pot and the more soil, the thrifter the plant," says M. F. Ahearn, associate professor of horticulture in the Kansas State Agricultural college.

"It is not the amount of food available, but the amount absorbed that counts. Nothing in the plant's life can be more disastrous than over-potting.

"If the plants are growing in sandy soil it is better to have it in a moist condition rather than too dry or extremely wet. With the soil in this condition, the working roots of a plant are kept intact and are ready to take up the burden of producing vigorous shoots and leaves as soon as the roots take hold of the soil.

"After potting, thoroughly water the plants and set them in a shaded place. Syringe the tops every day until the new roots begin to grow. Gradually inure them to the direct sunlight.

"Cuttings and seedlings are usually first potted in thumb pots (two inches in diameter) from which they are shifted to larger pots as soon as the thumb pots have become filled with roots. The soil used in filling these small pots must be free from all lumps. Press the soil firmly with the fingers and smooth it over by hitting the base of the pot."

IT'S NO TRICK TO GROW FERNS IN KANSAS HOME

Atmospheric and Soil Conditions Should Be Like Those Provided by Nature—Let Plant Rest in Winter

Listen, Kansas housekeepers! It is really no trick to keep a fern in good condition—that is if the atmospheric and soil conditions in the home are made as nearly as possible

like those provided by nature before the fern was brought into captivity.

The fern should have partial shade except in winter, when it is best to keep it in a sunny window, according to Albert Dickens, professor of horticulture in the Kansas State Agricultural college.

There should be moisture in the air of the room, and consequently a pan of water should be placed on the register or the stove. In the winter the fern may be allowed to dry out a little and "rest up."

Occasionally on a warm cloudy day the plant should be taken outside and given a bath. This removes the dust and helps control insect pests.

Scale insects are found on the backs of the fronds and must not be mistaken for spores which are soft and powdery. The scale insects may be washed off with soap and water or a kerosene emulsion.

The fronds grow by unrolling. The tip is tender and if brushed against and broken off the frond dies. All brown leaves should be removed from the plant. When the fern becomes root bound, it should be transferred to a larger pot.

The best soil for ferns is made up of two parts of rich garden loam, one part of sand, and one part of peat or leaf mould.

The Boston sword fern is the hardest of the house ferns. Other common ferns are ostrich plume, the maidenhair, the asparagus, and Whitman's.

IT'S A LONG, LONG WAY TO KANSAS FROM OLD CANTON

Poy Lim Finally Arrives Here Through Intercession of President Waters

When the ordinary Kansas State Agricultural college student has to go to the trouble of packing his trunk and suitcase, and then getting up at 3 o'clock in the morning to catch a train for Manhattan, he thinks he is suffering plenty of grief. But when a would-be student comes all the way from Canton, China, and is held up three weeks in an attempt to land, he is actually experiencing inconvenience.

Not long ago F. Y. Lim, a former student of the college, and his brother,

Poy Lim, sought permission to land at San Francisco, on their way to Manhattan. F. Y. Lim was permitted to land, but his brother, who is only 12 years old, was detained by the immigration authorities. The elder Lim immediately telegraphed President H. J. Waters for assistance in making a landing. President Waters wired the immigration authorities, requesting them to allow Poy to land.

President Waters supposed the matter ended, but two weeks later he received another telegram from Mr. Lim, stating that Poy had not yet been permitted to come ashore. A short time after this, President Waters was in San Francisco, when he arranged with the authorities to permit young Lim to enter the country and attend school here. Poy is now attending the Blumont school, learning the language. He expects to enter the college later. The elder Lim is a junior in the agricultural division.

MANY ORGANIZATIONS WANT TO HEAR MEN FROM COLLEGE

Agricultural Professors Will Make Addresses Before Farmers' Gatherings

Agricultural professors in the college are in heavy demand for addresses before leading organizations in other states as well as before Kansas gatherings. W. M. Jardine, dean of agriculture, and W. A. Lippincott, professor of poultry husbandry, will lecture in Farmers' week at the University of Missouri early in January. Professor Lippincott, O. E. Reed, professor of dairy husbandry, and L. E. Call, professor of agronomy, will speak at the Interstate Farmers' congress, St. Joseph, Mo., about the middle of December.

Today's issue of the Kansas State Collegian is a sport special. It is illustrated with numerous cuts of heroes of the football field. A feature is a review of the football season by John R. Bender, coach.

FARM HAS MODERN LIGHT

MANY RURAL HOMES NOW EQUIPPED WITH ELECTRICITY

Popularity of Systems Is Increasing, Says Local Engineer—Gasoline Engines Usually Furnish Power—Safe and Convenient Illumination for Barns

Use of electricity on the farm for the sake of convenience, safety, and comfort, is urged by G. B. McNair, instructor in electrical engineering in the Kansas State Agricultural college.

"Twelve years ago farm lighting plants were a novelty; today they are rapidly growing in popularity," says Mr. McNair.

"They are usually operated by a gasoline engine but in the eastern states, and especially in the Appalachian mountains, it is not uncommon to see water power used for this purpose. Where the people have water power, the storage battery is not used.

"In every state where farmers care at all for convenience, one will find a great number of lighting plants. Some farmers prefer the blaugas, acetylene, or gasoline lighting systems so that they may utilize the heat, but there is a certain element of danger in using these systems. Insurance companies insist that permission be given by them for the use of an acetylene system in buildings which are insured. Otherwise the insurance company will not be held responsible for any damage that occurs from the use of this system.

PLANTS ARE NOT COSTLY

"Plants including engine, generator, battery, and switchboard can be bought for \$135 up. One must bear in mind, however, that one gets only what one pays for, consequently it may prove poor economy to buy the cheapest plant. Such plants are of very small capacity, will operate only a few lights, and must be charged every day. A plant of this size and capacity has a six-cell 12-volt battery, and is capable of lighting eight eight candle power lamps for three hours; or five eight candle power lamps for eight hours. From this it is seen that only a small amount of light can be obtained from this outfit.

"A very serviceable plant having a battery sufficiently large to do a small amount of ironing together with regular lighting can now be had for \$350, including labor of installing, but this does not include the engine. Many farmers already have a gasoline engine which they can use, so the manufacturers quote prices exclusive of the engine, which can be purchased for \$60 or more."

BUY SERVICE IF POSSIBLE

A plant such as the average farmer owns costs about \$400, which does not include the cost of installation, wiring of house, cost of fixtures, and similar items. Where a farmer can buy power from a company whose line runs near his house, he will find it much more economical to do this than to put in his own plant. In the first place, there is no upkeep expense on the plant, and his yearly bill from the company will not equal the interest and depreciation alone for the private plant. The average bill for light to such a user would be about \$36 a year.

The housewife who has electricity on the farm does not have to bother with smoke or dirt from gas or oil lamps. She uses it for lighting her house, for doing her ironing, sewing, washing, sweeping, and toasting the bread for breakfast.

The farmer finds the electric light a safe and convenient light for his barn. He uses the engine to charge the storage batteries while it is being used for such work as pumping and feed cutting. Electricity on the farm is coming more and more to be considered a necessity for the comfort of living as much as good water and good stock.

The Social club will entertain the men of the faculty this evening in the reception rooms of the domestic science building. The decorations will consist of autumn leaves, pumpkins, and other adornments appropriate to the season.

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Number 10

TURN OVER THE SOIL

LATE FALL OR WINTER PLOWING IS URGED BY EXPERT

L. E. Call Says Heavy Types of Ground in Eastern Kansas Are in Poor Condition—Makes Valuable Suggestions to Farmers

Heavy types of soil have never been in poorer condition in the eastern section of Kansas, so plow now or sometime before spring, is the advice of L. E. Call, professor of agronomy in the Kansas State Agricultural college.

"The heavy beating rains of the past summer have left the soil in such a condition that it is very difficult to work," says Professor Call. "The action of frost on rough plowed or listed ground will do more than any other one thing towards restoring good tilth. Thus wherever ground can be plowed this fall or winter it should be done and the soil left rough so that it will be exposed to the fullest extent to frost action.

"A soil to be productive must be in good tilth. Good tilth is hard to define, but we all know when a soil works just right, when it turns over on the mould-board in a mellow, loamy condition and when it cultivates with ease.

HOW RAINS AFFECT SOIL

"This condition of the soil is the result of the arrangement of the soil particles. A heavy soil is made up of millions of small particles many of which are extremely small. When these small particles are bound together by organic matter or weak cement into small lumps the soil is said to be flocculated and in good tilth. When the small particles become separated from one another so that they are no longer flocculated the soil works hard and is in poor tilth.

"After a heavy beating rain the surface of the soil crusts. This is because the soil is deflocculated by the beating of the rain drops. If the soil is cultivated when in the right moisture condition following a rain of this kind, the soil will be flocculated again and good tilth produced, but when a number of heavy rains fall as during the past summer and when the soil remains wet and water logged for many days in succession, the entire surface soil becomes deflocculated and the soil is left in poor tilth. Such a soil plows hard and turns up rough and cloddy.

"If the plowing can be done in the fall or early winter and the ground left rough, the freezing and thawing of the water in the pore spaces of the soil will cause the clods to crumble and the soil particles to become flocculated. Thus good tilth will be produced.

PLOW IN THE WINTER

"There is scarcely a winter in which there is not from one to six weeks between December 1 and March 1 when the ground is in condition to plow. Advantage should be taken of these periods to plow ground that is to be planted to spring crops. Corn, kafir, sorghum, or oats can be planted to advantage on winter plowed ground.

"Oats will yield about as well on spring disked cornstalk ground if planted at the same time, but in a wet spring plowed ground dries more rapidly and can often be worked several days earlier than unplowed ground. This usually means an increased yield due to the earlier sowing.

"Ground that has been fall or winter plowed for corn or kafir warms up faster, dries more rapidly on the surface and is in condition to be planted earlier than when the crop is listed on unplowed ground. In the eastern third of the state it is a good practice to plow and surface plant or plant with a disk furrow opener at least a portion of the ground for corn even when listing is commonly practiced, because

there are many years when surface planted corn and especially kafir and sorghums give the best results."

CARE OF THE WHEAT FIELD

Ground that has been in wheat this past season and is going to be planted to a spring crop should be plowed without fail before spring. The volunteer wheat in such fields is in most instances full of Hessian fly. If these fields are not plowed during the winter, the fly now in them will emerge next spring and infest wheat in the surrounding neighborhood which at the present time is practically fly free. One of the most important steps in the control of the Hessian fly is to destroy volunteer wheat by fall and winter plowing or listing fields of this character.

In western and central Kansas the ground should be fall listed. Listing will have much the same beneficial effect on the physical condition of the soil as plowing and has the added advantages of holding snow better and of the soil blowing less. In eastern Kansas where fall and winter plowing blows in the spring, the ground should be worked with a disk or shovel cultivator just as early in the spring as it is in condition to work. This will usually prevent any trouble from this source.

In southeastern Kansas where winter rainfall is heavier there are a few soil types that run together and become hard and cemented when fall plowed. Such soils can usually be safely plowed in the late winter, but under most conditions they should not be plowed until spring.

COLLEGE GIRLS TAKE INTEREST IN DEBATE

Squad of 20 Will Get Practice in Argument—Contests Are Arranged with Three Institutions

Debating is receiving more than the usual attention this season on the part of the young women of the Kansas State Agricultural college. Three dual debates are scheduled, and a squad of 20 girls will receive practice in the art of argument.

The first debate is scheduled with Kansas Wesleyan university for December 10. The question is, "Resolved, that the United States should make an immediate and decided increase in her armaments."

The negative team, composed of Miss Mary Dakin, Miss Laura Mueller, and Miss Stella Gould, will go to Salina. The affirmative team members are Miss Rose Baker, captain; Miss Eva Townsend, and Miss Donna Faye Wilson.

The other debates are with Washburn college and the Warrensburg (Mo.) State Normal school. There are two places on the Washburn squad and six on the Warrensburg squad yet to be filled. The women for these places will be chosen in tryouts to be held shortly.

ENGINEERING DIVISION IS TO ISSUE MANY BULLETINS

Subjects Selected Are Suited to Kansas Conditions—Some of the Topics

The engineering division of the Kansas State Agricultural college under A. A. Potter, dean, has in preparation bulletins on various subjects which will soon be issued.

Subjects that will be treated include the following: water supply for rural homes, sewage disposal for rural homes, tests of the Kansas sands, effect of frost on concrete, concrete roads, gas engine tests with low grade fuels, use of the windmill for generating electricity, application of electricity to Kansas industries, depreciation of farm machinery, selection and care of farm machinery, suitability of traction engines to Kansas conditions.

Girls are taking an unusual interest in college athletics this season. They are eager for basketball practice to begin.

KANSAS APPEALS TO EAST

METROPOLITAN PAPERS WANT STORIES FROM STATE, SAYS CARRUTH

Journalists, Too, Come from Sunflower Region, Points Out Topeka Editor—Urges Students to Cultivate Speed, Simplicity, and Accuracy

Kansas has special advantages in the newspaper field. This is the belief of Arthur J. Carruth, Jr., of the Topeka State Journal, who gave the students in industrial journalism in the agricultural college some "Sights of a City Editor" Tuesday.

Kansas ranks high, in Mr. Carruth's opinion, not only as a producer of news but as a producer of newspaper men.

"This state first raises a crop of wheat," said Mr. Carruth, "then opens the gate and turns loose her reporters to tell about it. When the press of the east is not loaded down with tales of what Kansas is doing, the columns are well filled with what Kansas is going to do. If that runs out—well, of course there is always plenty to say about what Kansas has done.

"Spread between your slices of metropolitan bread a thick layer of the Kansas language and you have a sandwich that will appeal to the palate of the most particular eastern editor."

Mr. Carruth gave one of the most practical and at the same time entertaining addresses that have ever been made before the college students. He told the aspiring journalists how to try out their ability in the newspaper field, and what qualifications are necessary for success.

"Your uppermost problem, if you are figuring on entering the newspaper work is," he declared, "Would I make a success of it? Would I make good?"

TRY OUT FOR THREE MONTHS

"There is only one way to find out—try it.

"How long will it take to make the experiment? you ask.

"Three months, I would venture to answer.

"Three months of your life wouldn't be missed.

"Now the first move, of course, is to land a job. When applying for a place on a local staff of some newspaper, don't rely too much upon the salary you are about to receive. Remember, you are not sure that you are cut out for the work. Remember, again, that the city editor who hires you is able to pick out upon very short notice, experienced men—men who are applying daily for the same class of endeavor you are entering. Investing in a new reporter is like buying a ball player—calling him to spring training—it is a gamble.

"Remember, once more, that your newspaper ability never has been given a thorough test—and the test may be worth little or much to the paper on which you spend your cubhood.

"Now that you have the job—bore into it. Take assignments without protest. The city editor is trying you out on different classes of stories. He's hunting for your position, so to speak. He doesn't want to make a right fielder out of you when in reality you are a pitcher.

TRUST CITY EDITOR'S ADVICE

"After about three months you should know, to your own satisfaction—or dissatisfaction—whether or not you are cut out for the newspaper game. If the city editor doesn't beat you to it—have a man-to-man chat with him. Ask him if he thinks it worth while for you to stick with the profession. If he is an honest city editor—such specimens have been known to exist—he will tell you. And you would better place faith in his advice."

Speed, simplicity, and accuracy were emphasized by the speaker as essential

to effective reporting. He gave many illustrations from his own experience to show their importance.

"People don't subscribe for newspapers for literary enlightenment," commented Mr. Carruth. "The man who hangs to a street car strap with one hand, grasps a pound of butter and the evening newspaper in the other, and exhibits an insane desire to absorb the day's news, does not and will not wade through three inky sticks of rhythmical writing in order to discover how many children were rescued from the burning school. The flames undoubtedly 'leaped skyward'—very few flames duckcellarward—and it is the nature of smoke to 'ascend in whirling volcanic clouds.' All firemen are brave—their captains order them into the buildings. Walls usually 'fall with a resounding crash' and not with a dull alarm clock thud."

WASTE BASKETS COLD BLOODED

"These things are allowable, mind you, down in the body of the story—if there is space and time. But if the fire is worth playing, the facts alone with a 'kick' here and there, will 'spread' sufficiently. Don't overwrite your story. The city editor isn't a bit appreciative of your efforts and waste baskets have a cold blooded habit of exhibiting no expression of regret.

"Then there's that invaluable and most necessary sense of accuracy. Woe to an inaccurate newspaper—or reporter. The paper that 'never gets anything right' is the paper that soon loses out with the bank as well as the subscriber.

"The rapidity with which reporters gather news, the manner in which they are pushed by their superiors, the time obligation to their office owing to competition on the street—these modern demands breed mistakes. The reporter isn't wholly at fault.

"However, the reporter shouldn't gamble on a story. If he must take liberties with his story, let him confine his flare to the few adjectives he might be permitted to use—and possibly the time of day or the direction in which the wind was blowing. Loose writing leads to libel. Libel leads to a new job.

MISSPELLED NAMES INEXCUSABLE

"The smaller the paper, the more disastrous the errors. You may condemn a man for his politics, you may criticize his religion, you may ridicule his rights—but his face is slapped if you misspell his name. Misspelled names, misplaced initials and incorrect titles come under the 'can't be excused' portions of a reporter's duties. City directories, telephone directories and the power of speech protect this opening for the newspaperman."

Mr. Carruth pointed out several fields to which newspaper work is a stepping stone, including publicity work for theaters and corporations, advertising, and general business.

"Lawyers, politicians, business men, insurance men—men of varied professions, have told me," said the speaker, "that they considered a newspaper office education a real asset to the man in the business world. The reporter knows mankind—he sees deep under the skin of public idealism. He can't be fooled. Glamour glances from his armor of keen insight. Deceit is most easily recognized and sincerity is never doubted."

COLLEGE GIRLS COMPETE IN INTER-CLASS FISTBALL

Game Was Introduced in September—Hockey Attracts Attention

Inter-class fistball games have started among the girls of the college. This game, which was introduced in September, is gaining in popularity. Hockey is also attracting considerable attention.

FARMER'S WIFE IN LUCK

SHE'S THE MOST FORTUNATE COOK ON EARTH, IS CLAIM

Miss Frances Brown Tells How Products of Farm May Be Used to the Best Advantage—Hints for Housewives

That the farmer's wife is the luckiest cook in the world is the opinion of Miss Frances L. Brown, director of home economics in the division of extension, Kansas State Agricultural college.

She has more raw materials at hand with which to prepare her meals than any one else, contends this expert. She has all the milk, butter, and eggs she can use, and fruits and vegetables in season. Besides this there are the cattle, the hogs, and the chickens ready to be killed to furnish plenty of meat and lard for the family.

"With this bountiful supply on hand the farm housewife must exercise care to get the most nutritive meals and at the same time get a variation to tempt the appetites of her family," says Miss Brown. "Having so much butter and eggs, milk and meat, she is likely to use them exclusively in the foundation of her menus. She may be able to convert them into appetizing dishes—most farmers' wives are—but it is the constant use of them all that must be guarded against lest there be too much protein in the food."

MARKET THE VEGETABLES

"Vegetables too, the farmer's wife uses freely when they are in season, so freely that perhaps the family become tired of them. 'But,' she says, 'there are so many of them and nothing else to do with them.' Why not market them? Almost every farmer goes to town twice a week and if a little effort is made, ready and appreciative customers may be found who will be glad to buy nice fresh vegetables and fruits whenever they can get them.

"By selling a part of the vegetable supply the farmer's wife can accomplish two things. She can feel like buying other things to make a variation in the meals, and can have the satisfaction of realizing that she is doing some real thing to make larger the credit side of the account book.

"If she does not find a ready market for her vegetables the farmer's wife may can them and then have them to rely on to make a variety in the winter menus. For it is in the winter time that it is hard to know what to cook today that will be sufficiently different from what was cooked yesterday.

THEY'LL KEEP ALL RIGHT

"Several kinds of vegetables may be canned and combined in different ways when opened. Years ago housewives dreaded to can vegetables because they would not keep, but with the present day understanding of and emphasis on sterilization of the food and of the jar, the farmer's wife has the assurance that her vegetables when properly cooked and sealed, will amply repay her in the winter for the pains she took in the summer."

A part of the butter and eggs, also, can be sold and the money used to buy other things or to swell the bank account, says Miss Brown. The farmer's wife is inclined to feed her family and friends too well.

COSMOPOLITAN CLUB WILL ENTERTAIN THIS EVENING

Fifteen Nationalities Are Represented in Membership of Organization

"Hospitality Night" will be observed this evening in the domestic science and art building by the Cosmopolitan club. Guests will include the mayor of Manhattan, city commissioners, editors of local papers, and clergymen, together with their wives. The club is composed mainly of foreign students, 15 nationalities being represented in the membership.

THE KANSAS INDUSTRIALIST

Established April 24, 1875

Published weekly during the college year by the Kansas State Agricultural College, Manhattan, Kan.

H. J. WATERS, President.....Editor-in-Chief
N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

Except for contributions from officers of the college and members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism. The mechanical work is done by the department of printing. Of these departments Prof. N. A. Crawford is head.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

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SATURDAY, NOVEMBER 27, 1915

"Real Needs" is the name of a new political magazine. Yes, the editor is a candidate for office.

Freedom of the press, as reputable newspapers understand it, is merely freedom to tell the truth.

There is always a top head in the local paper when the evangelist converts a prominent office holder.

Some persons have something to say, and others are quoted on the approaching marriage of President Wilson.

Loving Gaines was defeated for lieutenant governor of Kentucky, but most young people will continue to believe that Loving Gaines.

COUNTY AGENTS COMMENDED

The Farmers' union, it is gratifying to observe, looks at the work of county agents and farm bureaus in much the same way as those who have this work in charge. No better statement of the qualifications of agents and the administration of the work as conducted in Kansas could be given than the following resolution passed at the national convention of the Farmers' Educational union at Lincoln, Nebr.:

"We welcome the farm bureau or demonstration agent sent to us by the United States government. We need the assistance of his scientific knowledge. But we feel that to be of most help to the farmers he should combine both the scientific and practical side of agriculture; that is, after taking the college course he should make good on the farm by applying to it his scientific knowledge before going out as a teacher of agriculture or farm adviser.

"We further recommend that the question of demonstration agents or farm advisers be left to the farmers of each state or county. We further recommend that the farmers of each county shall have the power to select the agent for their county."

NO FADDISHNESS WANTED

If there is any one thing that causes public distrust of instruction in agriculture in the public schools it is faddishness. Fortunately most teachers in this region have realized the danger and are avoiding it. There is no objection whatever to growing tulips and orange trees and raising rabbits under the auspices of a public school merely for nature study or for adding an artistic touch to the school property. But these are not material for teaching agriculture. The agricultural prosperity of this part of the world does not depend at all upon tulips, orange trees, and rabbits, except as the last mentioned may reduce the farm crops by their destructive habits.

The things that should be taught in agriculture are the things that a successful farmer must know—the essentials of tillage, crop rotation, seed selection, protection against insects, and other matters of like importance. Some of the simpler problems of transportation and co-operation may also have attention. This for the country. In the towns and cities general knowledge of farm crops and a careful study

of the relation of rural and urban economic problems should be insisted upon.

Agriculture is not botany or nature study. It is a subject by itself and a subject, moreover, in which successful practice ought always to be emphasized.

BLIND ALLEY JOBS

It is a good thing to give girls now in the city shops all the advice possible as to using their miserably low wages to the best advantage. At the same time, however, every Kansas girl who lives in the country or a small town ought to understand thoroughly that work in the city shop which pays the low wages that most such stores do, is a blind alley occupation. Unless the girl has unusual commercial ability, there is no chance to get ahead. Even if she has special ability, the struggle that she has to make in getting ahead is hardly compensated for by the rewards at the end.

Girls who do not know the city thoroughly and who have no special qualifications have little business trying to work there. They can do nothing for the city except to wear themselves out in a more or less inefficient service, and the city can do nothing for them. One of the big reasons for low wages in big cities has been created by the cities themselves, in that young women living at home will accept employment at wages insufficient to support anyone away from home. Anyone living outside the city comes at a perfectly obvious disadvantage. Until by some means wages are raised to a point where competition is fair, the country or small town girl had better stay out.

MAKING FRIENDS

College, a barren desert with a few waving palm trees in the shape of professors, several rocks disguised as books, and themselves as the only living objects in all the rolling waste, is what some students have made out of their college life. They have sunk in the mire of their own self-consciousness and turn their backs on their only assistance—friends. The value of making friends can never be overemphasized. What is knowledge, training, brilliancy, if we have no friends to turn to in our moments of defeat, or even in success? What is education but increasing the circle of friendship, widening the horizon with new facts, new theories, and new friends?

President Emeritus Angell of Michigan said that a student can learn as much from his classmates as he can from his professors. The "undergraduate" who arraigned college education so severely in the Outlook this summer, wrote that he learned more literature from a friend who was a bookworm than from his college courses. Both statements need qualifying, but certainly college friendships are a potent factor in education.

College offers a wonderful opportunity for making friends. Intimate contact in the classroom, campus clubs where persons of like minds gather, every turn presents a fresh opening toward a person's esteem. Education is but an empty shell if the student builds a high fence around himself and refuses to open the gate to anyone.—Ohio State Lantern.

TRAINING AND OPPORTUNITY

Specializing has come to be the big thing in the race for success. Careful and systematic preparation is absolutely necessary in meeting competition, no matter whether it is in fruit growing, selling plows, or making shoes. And specialization cannot be had without thorough preparation and concentration on one line.

The day has long passed when farming was the occupation of the ne'er-do-well. It is no longer looked upon as the last job for a man who has made a failure of all else. But instead, the fundamentals of farming are becoming so well understood that few indeed are tempted to venture into the highly specialized branches of farming without thorough preparation, without a more or less prolonged serv-

ice in practical work and some study of the principles underlying that particular specialty.

Agriculture is as large, weighty, and deep a study as law or medicine, and it is just as hard to bluff your way through to success in agriculture, without a knowledge of the business, as in any of the "professions." The more extensive that knowledge, the more thorough the preparation for the work, the more certain is the ultimate success. And it is so easy today, to get this knowledge and training. The hundreds of free agricultural colleges of this country provide the training for any branch of agricultural work, and afford opportunities never before provided in the history of the world.

A QUARTER CENTURY AGO

Items from the Industrialist of November 29, 1890

The Alpha Beta annual comes next Friday evening.

E. H. Perry, '86, of Topeka was a visitor yesterday.

I. D. Gardiner, '84, of the Alma News called at the college yesterday.

A female golden eagle, killed in Ashland township, has been added to the museum.

Regent Forsyth is mentioned as a possible successor to Senator Ingalls in the Fifty-second congress.

President Fairchild and Professors

DE SENECTUTE

William Dudley Fouke

The leaves fall fast, the locks upon my head
Grow thin and gray. 'Tis winter comes apace;

Soon will the foliage of the woods be dead

And icy tempests hide fair nature's face.

Yet shall my hearth be bright and shed a glow
Cheery and warm as if the summer smiled,

While the clear sunshine that my heart doth know
Beguiled!

Love, tears and laughter and hate of wrong

Let me still keep them! And my young desires

I will pursue with dancing feet and song
Till the last ember on the hearth expires!

Nay, let mine ear grow dull, eye dim,
and body fail
Yet o'er the wreck a dauntless heart prevail!

SUNFLOWERS

Expression is nine points of the lawyer.

If wishes were jitneys, street railway magnates might be beggars.

Let us now be thankful that the Thanksgiving dinner didn't kill us.

Any girl who is fortunate enough to have a name ending in "va" can get a job as a classic dancer.

If censorship is to be connected with the movies, we are in favor of censoring the talk of the fools in the audience.

A headline reads: GIRL KEPT SILENT FOR THREE DAYS. We must remember that she was only a girl.

People who are wise enough to succeed are usually frank enough to admit that persistence, and not genius, is the secret of success.

LITTLE THINGS

It is the little things of life
That make the great sum total;
And likewise 'tis the little rooms
That make the mighty hotel.

CONSOLATIONS BY THE WAY
Not every home needs a talking machine.

It is a wise woman that knows her own tongue.

THE ANNUAL OPPORTUNITY

The Benevolent Order of Grasping Tradesmen is pleased to announce that the Christmas shopping season is now under way. If there is any one time in the year when the heart and the purse should be opened freely, that time is Christmas. Almost two thousand years ago, long before the world and all that is therein had been commercialized, wise men established the blessed custom of giving by parting with their most precious jewels. Attention is called to the fact that this occurred in days when there was little incentive to give, other than true reverence and kindly promptings of the heart. Now that gift-giving has been put upon a substantial commercial basis, it behoves us to emulate their worthy example by spending as much as we inconsistently can and giving to all from whom there is any possibility of reciprocation.

The B. O. of G. T. extends to all a most cordial invitation to visit the shops and buy until the shelves are barren. Many of the most useless articles have been marked up to the most attractive prices. Much that is utterly valueless is now being offered at prices heretofore considered impossible. It is to be hoped that no one will fail to avail himself of this opportunity to spread Christmas cheer and to achieve for himself a happy heart and a light purse.

F. L. Kelso, superintendent of the government experiment station at Ardmore, S. D., was a visitor at the college this week. He was on his way to Washington, D. C., on business for the department of agriculture.

A Kansas scientist has discovered why the young men of that state suffer so much from indigestion, as he has found that most face powders contain drugs harmful to the stomach.—Meriden (Conn.) Journal.

AMONG THE ALUMNI

Miss Eva Pease, '15, is principal of a rural high school near Attica.

Dr. George F. Haas, '14, is practicing veterinary medicine at Courtland.

Miss Esther Zeininger, '15, is teaching home economics and German in the Lansing high school.

Miss Florence Snell, '11, who was formerly in the extension division here, is teaching in Belleville.

Miss Margaret Ann Blanchard, '14, is teaching domestic science and art in the Ellsworth high school.

Miss Mildred Caton, '14, is teaching domestic science and art in the Colby high school. Last year Miss Caton attended Simmons college.

Miss Lulu Case, '11, has resigned her position in the Haskell institute at Lawrence to accept a position on the Capper publications at Topeka.

Mrs. Eleanor B. Pratrick, '15, is receiving a very substantial salary as head of the domestic art department in the high school at Lead, S. D.

Miss Valeda Downing, '15, is in charge of a cafeteria in San Diego, Cal. She writes that she made 100 individual pumpkin pies in one day.

F. W. Christensen, '00, nutrition chemist of the New Mexico Agricultural College Experiment station, visited the college and his old teachers Monday.

Miss Effie May Carp, '15, is making a decided success as a teacher of domestic art and normal training in Spearville. She is enthusiastic about her work, and is highly pleased with western Kansas.

Mrs. Carl Musser is teaching domestic science in the Connecticut State Agricultural college at Storrs, Conn. Mrs. Musser will be remembered as Miss Madge Rowley, who was graduated in 1913.

Miss Edna Coith, '14, has the distinction of receiving the largest salary of any recent graduate of the home economics department. She has a position in the domestic science department of the Illinois State Normal school at Normal, Ill.

Miss Minnie Gugenan, '15, is in Chewelah, Wash., teaching home economics in the high school, and is also in charge of the girls' dormitory. She is successful, both as a matron and as a teacher. Miss Gugenan was the honor student in the home economics department last year, having 364 honor points at the time of graduation.

Miss Addie Root, '13, who was with the extension department here last year, is now with the extension department in the University of Missouri. She has charge of the girls' clubs in Missouri. Her work takes her to all parts of the state, where she organizes home economics clubs, gives demonstrations and acts as general supervisor.

NICHOLS TO LEAVE DARTMOUTH
The retirement of Dr. Ernest Fox Nichols, '88, from the presidency of Dartmouth College, Hanover, N. H., at the close of the present college year, has been announced. President Nichols has accepted an invitation to a chair of physics at Yale, thus returning to a field which in the past, he told the trustees, had gratified his every ambition and which he left reluctantly to accept the call to Dartmouth six and a half years ago.

President Nichols had held professorships at Colgate University, Dartmouth, and Columbia before he entered upon the presidency of Dartmouth upon the resignation of Dr. William J. Tucker in 1909. He was born in Leavenworth, Kan., in 1869. He received his early education in Kansas. He was graduated from the Kansas State Agricultural college in 1888. He became the head of Dartmouth with the provision that he might later quit his administrative duties and return to his science duties. He was awarded the Rumford medal by the American

Academy of Arts and Sciences in 1905. This is the highest scientific distinction this country confers.

A brother, A. L. Nichols, lives in Topeka, and there are other relatives in Manhattan.

AGRICULTURE STUDENTS MUST USE GOOD ENGLISH

Division Adopts Plan for Improving Language of Young Men—To Co-operate with Prof. J. W. Searson

Good English will be required of students in all departments of the division of agriculture, according to action just taken. This is in line with emphasis laid by business houses and boards of education on good written and spoken language. The new work planned by the division is to be carried out in co-operation with J. W. Searson, professor of the English language.

The regulation adopted by the division of agriculture follows:

"All instructors in the division of agriculture are hereby requested to forward to the dean of this division all examination or other written papers which are handed in by students in the division of agriculture and which show marked deficiency in spelling, punctuation, or sentence structure. These papers will be sent to the head of the English department.

"The writers of these papers shall appear in person at the office of the head of the English department at a designated hour, arranged jointly by the dean of this division and the head of the English department, for such conference and instruction as shall be necessary to remedy the above mentioned deficiency.

"The English department shall be requested to make recommendations to the dean of this division regarding students who continue to be especially deficient in these subjects, even to the extent of withdrawing credits in English.

"Notice of this action of the faculty of the division of agriculture shall be given to each class by the instructor."

HOLTON PLANS EARLY FOR SUMMER SESSION

Experts from Outside Institutions, as Well as Good Local Talent, Will Offer College Courses

Plans for the most successful summer session ever held by the institution, are being made by Edwin L. Holton, director, who has already secured the services of well known experts from outside the state, as well as some of the strongest men within the college.

Mrs. Ann Gilchrist Strong, head of the department of home economics in the University of Cincinnati, will be professor of home economics in the summer school. She was in the school last summer and her work was exceedingly popular and effective.

Dr. Layton S. Hawkins, teacher of agriculture and nature study in Cornell university and in the State Normal school in Courtland, N. Y., will be professor of secondary agriculture in the summer school and will give advice to high school teachers and others as to effective methods of instruction in agriculture. He will conduct a seminar also for college teachers of agriculture. Doctor Hawkins is a graduate of Amherst college and Cornell university, and is one of the best known leaders in his field in the United States.

A large number of special speakers and much special music will be further features of the summer session. There will be 150 regular courses taught by 65 instructors. The number of courses offered last summer was 120.

CHORAL SOCIETY PREPARES FOR CONCERT DECEMBER 6

Is Holding Two Rehearsals a Week—Membership Is Now 350

The Choral society under the direction of A. E. Wesbrook, head of the department of music in the Kansas State Agricultural college, is holding two rehearsals each week preparatory to the concert which will be given in the college auditorium December 6. Membership in the society is approximately 350.

CHORAL SINGING FOR ALL

EVERYBODY HAS MUSICAL ENERGY, SAYS COLLEGE PROFESSOR

School Teacher or Minister Is Logical Person to Start Community Movement—Numerous Concerts Should Be Arranged

Choral singing is the backbone of every kind of musical activities, whether in the college, the high school, or the rural school, according to Arthur E. Wesbrook, professor of music in the Kansas State Agricultural college.

"It should be the business of every Kansas rural school teacher," says Professor Wesbrook, "to establish in his or her community a choral society. Every person has musical energy and it is in chorus work that every one can satisfy this energy.

"The school teacher or the minister is the logical person to start this get-together movement in the community and the school teacher is preferable to the minister, because religious differences might prevent some from taking part.

"The schoolhouse is desirable for the meeting place for the same reasons.

TRAIN CHILD IN RURAL SCHOOL

"The musical training of a child should start in the school, where scales and simple songs can be practiced. It should be the work of every rural school teacher to make herself familiar with the methods of teaching public school music, and to apply these methods in her own rural school.

"The chorus work among the older members of the community should start with singing simple hymns and folk songs, and lead up to the more difficult part songs.

"To keep the interest of the chorus there must be some definite aim—something to work for—and numerous concerts can be arranged. These give all the singers the feeling of accomplishing something worthy of the time spent upon it.

"It is the school teacher's place to be the leader in the musical and literary life of a community, and the teacher should have enough initiative to take this lead without being asked.

"School boards are looking for this kind of teacher, who will do more for the community than simply teaching the children to read, write, and figure their arithmetic. Boards will gladly pay higher salaries to such teachers."

GIRLS PUBLISH SPECIAL NUMBER OF COLLEGIAN

Coeds Get Out Student Paper—Two Would Please Edward Bok, Though Written Especially for the Home Boys

The dear girls—bless their hearts—got out the Kansas State Collegian, the student newspaper, Wednesday. It was a real girls' number, too. There was a feature story about Gwendolen and Gladys, and some other "cuteys," and they "snapped" and "purred" and "polished their mirrored nails" and "stroked down lovers' lane" just like the creations of George Barr McCutcheon and Robert Chambers. There were other feature stories and there were society notes—enough for the New York Times—and fashion notes—according to which artificial flowers are smart this year and natural ones somewhat passé. Then there were uplift "dope" and an editorial asking the reader to tell his friends, especially the boys, how smart the college coeds are. Edward Bok has nothing on the Kansas girls.

The big story of the issue, occupying right top position, first page, in true metropolitan style, was of the sophomore-freshman football game, covered by Miss Hazel Beck. Here is part of the story:

"The freshmen and sophomores played the first interclass game of football on the athletic field Saturday afternoon. The score was 3 to 0 in favor of the sophomores.

"The bleachers were crowded with enthusiastic rooters. Mid the cheers of their classmates the men lined up on the field for what they call a kick off.

"The sophomore with the biggest toe kicked the ball off a gopher mound. It whirled through the air and a freshman caught it. He started to run and so did all the others. They ran right together and grabbed each other around the legs, or the neck or any convenient place and mussed each other up dreadfully. A man in a white sweater, who seemed to know everything, finally persuaded them to get up and let him have the ball. He put it down on the ground again for them to fight over. I should have thought he'd have known better.

"A big yellow haired freshman got real mad and yelled some numbers like 8-3-46. Someone threw him the ball and he passed it real gracefully to another fellow who started right through those sophomores with his head down for all the world just like uncle Bill's black bull.

"The white sweater pulled them off and started them all over again. It seemed he liked the freshmen best for he always gave them the ball. But he soon gave it to the sophomores. It was all in the game.

"He put the ball on the ground and they all got down leap-frog fashion. It seems that is also in the game. The yellow haired freshman yelled some numbers again, grabbed the ball and dived head foremost into the mass of wriggling, twisting men, just as if they were waters of a peaceful lake. Suddenly someone called for water. They all stopped. The water bottle was finally unearthed from the straw and found to be empty. Somebody started to a well a mile away for water. When he returned everybody had forgotten about water, for the sophomores had the ball and were coming down the field, slowly but surely. The only trouble was that one of the men had a hard time trying to remember what the signals were.

"In the fourth quarter the freshmen had the ball, but the sophomores kept pushing them backwards toward the sophomore goal. If they had pushed them clear over the line would that have been a touchdown for the sophomores? Answer this.

"Some freshie did something and the white sweater put the whole team back five yards and wouldn't let this man stay on the front line and the very next moment he put the team back another five yards because this man wasn't on the front line. Explain this too, if you can.

"Suddenly a sophomore kicked the ball and it sailed above the field and between the goal posts and everybody yelled.

"The 12 minute quarter was over but the white sweater did not seem inclined to stop the game. The fourth quarter was exactly 24 minutes long. Something else I want explained.

"Thusly was it that the sophomores won from the freshmen 3 to 0."

These are the members of the staff that edited the special number: Annette Perry, editor-in-chief; Hazel Beck, associate editor; Ruth Hoffman, business manager; Madge Thompson, news editor; Ethel Loring, sport editor; Edith Updegraff, society editor; Velona Cutler, Ruth Hoffman, Mildred Branson, Grace Dickman, Elizabeth Wadley, Claudine Rathman, Helen Crane, Carolyn Lear, Emma Taylor, Jamie Cameron, Esther Nachman, and Marion Quinlan, reporters.

ST. CECILIA GLEE CLUB CONTAINS MANY MEMBERS

New Organization of College Girls Will Give Recitals and Concert

One of the largest organizations of its kind in the educational institutions of the west is the St. Cecilia Glee club, composed of young women, which has just been organized in the Kansas State Agricultural college by Arthur E. Wesbrook, professor of music. The club has a membership of 45 picked students.

Recitals will be given by this musical organization from time to time and a special concert is being planned for next spring. No out-of-town trips will be made. Miss Fanchon Easter, instructor in piano, is accompanist for the club.

The enrolment of girls in the Kansas State Agricultural college is 912.

TO DISCUSS RURAL LIFE

ANNUAL CONFERENCE WILL BE HELD IN DECEMBER

Members Will Be Able to Take Agricultural Work at Same Time—Addresses by Experts—Meetings Heretofore Have Been in Summer

The program of the rural life conference to be held in connection with Farm and Home week at the agricultural college December 27 to December 31, is unusually attractive. It is centered around education and social life in the rural communities and the relation of religious organizations to community welfare.

Among the features as announced by Walter Burr, in charge of the rural service department in the division of extension, are the following lectures: "Rural Education in Kansas" by W. D. Ross, state superintendent of public instruction; "The New Rural Education," E. L. Holton, professor of education in the agricultural college; "The Standardization of Rural Schools," Miss Julia Stone, state rural school inspector; "Child Hygiene," Dr. Lydia Allen DeVilbiss of the state board of health; and "Economic Projects in the Community Welfare Movement," Dr. B. H. Hibbard, professor of agricultural economics, University of Wisconsin.

Conference periods will be held on "Rural Education for Adults" led by E. C. Johnson, dean of the division of extension, and Prof. M. G. Burton, in charge of the home study service; on "Community Welfare" led by Walter Burr; and "Religious Organizations and their Relation to Community Life" led by rural ministers.

PROGRAM FITS REAL NEEDS

The whole program is particularly well adapted for rural ministers, county superintendents, rural teachers, Young Men's Christian association secretaries, officers of institutes, farm bureaus, granges, farmers' unions, and other farmers' organizations, as well as all others particularly interested in leadership in rural life. The special rural life conference programs will be given during the afternoon so that the regular agricultural work in the Farm and Home institute can be taken during the forenoon by all who wish to do so.

The special assembly periods at 11:10 each morning, to which all the people in attendance during Farm and Home week can come together and hear addresses by men of great reputation, are open also to those attending the rural life conference.

This conference will be held in place of the school for rural leaders formerly held in July. The time has been changed to accommodate many persons who cannot leave their work in summer.

COUNTIES TO COMPETE IN BASKETBALL TOURNAMENT

Local Commercial Organization Offers Prizes to Winning Teams

An inter-county basketball tournament for boys and girls will be a feature of Farm and Home week, December 27 to 31, under the auspices of the Kansas State Agricultural college. All the county clubs of the state have been invited to send teams. The tournament will be held in Nichols gymnasium.

Eligibility and entry blanks have been sent to the club managers and when these return, a schedule will be worked out. The boys and girls, to be eligible, must be between the ages of 10 and 18 and also be eligible under the rules of each individual county. They must also be approved by the leader in charge when they arrive in Manhattan.

Loving cups and banners will be presented to the winners by the Manhattan Retailers' association. The championship will be decided by an elimination process. The winners of the first round will play the winners of the second.

Girls of the college are working hard in preparation for the county fair which will be held in Nichols gymnasium December 4.

VOLUNTEER WHEAT FORMS HOTBED OF HESSIAN FLY

GEORGE A. DEAN, EXPERT ENTOMOLOGIST, ADVISES FARMERS TO
PLOW STUBBLE FIELDS UNDER BEFORE IT IS TOO LATE—
INSECT IS NOW IN FLAXSEED STAGE

Over almost the entire eastern half of Kansas and several of the counties in the western half of the state, almost all the volunteer wheat growing in the old stubble fields is badly infested with Hessian fly and, if this volunteer wheat is not plowed under before the first of next April, it will prove a source of great danger to the many fields of wheat which are now practically free from the fly, warns George A. Dean, entomologist of the Kansas State Agricultural college and experiment station.

"Many wheat growers seem to believe that the most important method for the control of the Hessian fly is late sowing," says Professor Dean. "This is simply one of the important steps in the control of the fly, but it should not be overemphasized. The most important thing, and the one that the experiment station has always emphasized is the destruction of all volunteer wheat. The entomologists of the Kansas Experiment station have always emphasized four things: the thorough preparation of the seedbed, destruction of all volunteer wheat, late sowing, and coöperation.

LATE SOWING NOT SUFFICIENT

"Late sowing alone will protect most of the wheat in the fall from becoming infested by the fall brood of the fly, but there is also a main spring brood of the fly. If any volunteer wheat is growing in the main field of wheat and in the old stubble fields left to plant to some other crop the next spring, the spring brood of flies emerging from this volunteer wheat about the first of April is very apt to infest the main crop. Thus wheat absolutely free from fly may become dangerously infested next spring by this spring brood.

"We know of hundreds of cases where this was true last spring, and it will probably always be true of any year when there is a general infestation over the whole country. We know that flies will migrate in dangerous numbers for a distance of a mile and in a few cases even two miles. This is the reason for emphasizing the importance of coöperation, because one man with a field of volunteer wheat or with a field of early sown wheat may endanger a number of wheat fields which were free from infestation in the fall.

SOME CAN'T BE DESTROYED

"Considerable volunteer wheat is growing in the main crop of wheat. This volunteer is badly infested but nothing can be done to destroy it without also destroying the main crop.

"The veritable hotbed of the fly this year is the volunteer wheat growing in the stubble fields. There is considerable less acreage of wheat this year over the greater part of the wheat belt and this means that many stubble fields are left standing full of volunteer wheat. There will be no serious danger from this volunteer wheat this fall. The farmer may get his fall and winter pasture, but, by all means, he should plow this wheat under before the first of next April.

"To wait until March to do this plowing may mean that much of it will not be plowed under, because the weather conditions may make it impossible to plow. The various field men of the experiment station and the extension division find in going over the state that a great many farmers are planning to leave the fields of volunteer wheat and list them to corn next spring. In this case, the ground in a large number of fields will not be touched until the flies have emerged, and thus these fields will menace the main crop of wheat."

BROOD EMERGES IN SPRING

The Hessian fly is now in the flaxseed stage. The little, brown, flaxseed-like objects may easily be found just above the crown of the plant be-

tween the leaf sheath and the stalk. The winter is passed in this stage and the main spring brood emerges from these flaxseeds from the last few days in March to the last of April.

The flies live only a few days, but during that time deposit from 100 to 300 of their eggs in the grooves along the upper surface of the wheat leaves. The eggs hatch in from four to eight days and the young maggots work their way down the leaf to a place between the leaf sheath and the stalk where the leaf has its origin. Here the maggots grow, feed, reach maturity, and transform to "flaxseeds."

By the last of May, if the weather conditions are favorable, the second or supplementary spring brood is out and the life cycle is repeated. After harvest the flaxseeds of this brood may be found just above the crown or just above one of the joints, and here they remain in the stubble until towards the last of August, at which time the flies of the fall brood begin to emerge to infest the volunteer and early sown wheat.

MANY INSTITUTES TO BE HELD IN DECEMBER

Schedule Is Announced by Dean of Extension Division—All Parts of State to Be Reached by Speakers

Kansas farmers' institute schedules have been announced by Edward C. Johnson, dean of the division of extension in the Kansas State Agricultural college. The list follows:

Carl P. Thompson and Miss Alice Poulter—Minneapolis, December 13-14; Glascow, December 15-16; Excelsior, December 17-18; Aurora, December 20; Longford, December 21-22.

Ross M. Sherwood and Miss Marion Hepworth—Lawrence, December 13-14; Linwood, December 15; Gardner, December 16-17; Williamsburg, December 18; Homewood, December 20; Vinland, December 21; Rossville, December 22.

Carl G. Elling and Dr. O. E. Strodtman—Leon, December 13; Severy, December 14; Eureka, December 15-16; Toronto, December 17; Moran, December 18; Colony, December 20; Yates Center, December 21-22.

Roy Johnson and Miss Louise Caldwell-Ellsworth, December 13-14; Lorraine, December 15; Nickerson, December 16-17; Pretty Prairie, December 18; Huntsville, December 20; Hudson, December 21; Radium, December 22.

George O. Greene and Miss Mary Hoover—Everest, December 13; Troy, December 14-15; Denton, December 16; Atchison, December 17-18; Effingham, December 20-21; Dumplings, December 22.

M. C. Sewell and Lee H. Gould—Garden City, December 13-14; Syracuse, December 15-16; Johnson, December 17; Richfield, December 18; Elkhart, December 20; Hugoton, December 21; New Ulysses, December 22; Santa Fe, December 23.

P. E. Crabtree and C. A. Cassel—Scott City, December 9-10; Leoti, December 11; Tribune, December 13-14; Dighton, December 16-17; Ness City, December 18; Alexander, December 20; Rush Center, December 21; Timken, December 22.

C. A. Scott and Miss Stella Mather—Horton, December 9-10; White Cloud, December 11; Highland, December 13; Severance, December 14; Robinson, December 15.

H. B. Walker and Miss Stella Mather—Hiawatha, December 16-17; Pottawattamie, December 18; Oneida, December 20-21; Soldier, December 22.

M. G. Burton, J. B. Fitch, and Miss Frances L. Brown—Indian Creek, December 2-3.

Twenty senior girls are enrolled in practice teaching. Each girl is responsible for teaching three classes in domestic art and domestic science in the term.

HAS DRIVEN FAKE OUT

STALLION LICENSE LAW PRODUCES BETTER HORSES FOR KANSAS

Increase in Number of Purebreds in Five Years Is 20 Per Cent—Large Majority Are Percherons—Fifteen Breeds Are Represented

Increase in number of licensed stallions and consequent increase in the quality of horses in Kansas since the stallion law became effective in 1910 has been little short of marvelous, reports show. The pedigree faker has been practically eliminated from the state.

"When the stallion law was first suggested it was thought it would exert a strong influence—both directly and indirectly—for better horses in Kansas," says Dr. C. W. McCampbell, secretary of the live stock registry board and assistant professor of animal husbandry in the Kansas State Agricultural college. "That the horsemen who originated the idea of the law and helped secure its passage were right, is shown by the progress Kansas horse raisers have made since the law became effective in 1910.

AN INDEX TO QUALITY

"The best index to the kind and quality of horses in a community, county, or state is the kind of stallions in use."

Five years ago 2,599 purebreds and 3,766 grades and scrubs were licensed to stand for public service. Only 40.8 per cent were purebreds, while 59.2 per cent were grades and scrubs. During 1915 licences have been issued for 3,244 purebreds and 2,511 grades and scrubs. In other words 20 per cent more purebreds were licensed in 1915 than in 1910, and 33 per cent fewer grades and scrubs.

Furthermore, 2,661 purebred draft stallions and 563 purebred light stallions were licensed in 1915 as compared with 1,892 purebred draft stallions and 707 purebred light stallions in 1910. During this period there has been an increase of 40 per cent in the number of purebred draft stallions and a decrease of 20 per cent in the number of purebred light stallions. The number of purebred Percheron stallions has increased 50 per cent from 1910 to 1915.

THESE BREEDS ARE IN KANSAS

The different breeds ranked in the order of numbers licensed for 1915 appear in the following table: Percheron, 2,038; standardbred, 416; French draft, 294; Belgian, 201; shire, 88; Clydesdale, 38; German coach, 37; American saddle, 34; Morgan, 25; French coach, 18; Shetland, 10; hackney, 9; thoroughbred, 8; Cleveland bay, 6; Suffolk, 2. The striking feature of this table is the fact that 63.2 per cent of all purebred stallions licensed for 1915 are Percherons.

The counties having 50 or more stallions in which the largest per cent of purebred stallions were licensed to stand for public service rank in the following order: Harvey, 80 stallions, 76.6 per cent purebred; Cowley, 104 stallions, 74.0 per cent purebred; Rice, 80 stallions, 73.7 per cent purebred; Mitchell, 86 stallions, 73.2 per cent purebred; McPherson, 89 stallions, 70.8 per cent purebred; Jefferson, 61 stallions, 70.5 per cent purebred; Dickinson, 88 stallions, 70.5 per cent purebred; Butler, 99 stallions, 68.7 per cent purebred; Johnson, 51 stallions, 68.6 per cent purebred; Douglas, 54 stallions, 66.6 per cent purebred; Reno, 83 stallions, 66.2 per cent purebred; Jewell, 97 stallions, 66.0 per cent purebred.

MORE PUREBREDS ARE NEEDED

"Future improvement in the kind and quality of the horses of a community depends almost entirely upon the influence of the good, sound purebred sires," says Doctor McCampbell. "The figures given show that even in the counties where purebred sires are most numerous there is need for more, while in the counties where they are few the necessity for more good, sound, purebred sires is most urgent. Such sires provide both pride and profit to stallion owner and to stallion patron."

"The stallion license law has given mare owners a means of knowing the exact breeding of the stallions they patronize, and has eliminated the misrepresentations regarding blood lines which formerly appeared in many stallion advertisements.

"In 1909 more than 2,000 grades and scrubs were advertised as purebreds, while in 1915 not one such animal was so advertised in a Kansas newspaper. Previous to the passage of the stallion license law, hundreds of grades and scrubs with fake and fraudulent pedigrees were sold as purebreds to unsuspecting purchasers at prices ranging from \$500 to \$4,200 each. These unscrupulous stallion peddlers have left the state, as the stallion license law has exposed their wares.

"These practical and beneficial results from the operations of the stallion license law make it of inestimable value to the horse raisers of Kansas. The coöperation of every one interested in horses by seeing that the law has its widest application, will result in even greater benefits."

ENTOMOLOGISTS GET SCIENTIFIC HONORS

Every Member of Local Department to Present Paper Before Association for Advancement of Science

All the members of the department of entomology in the Kansas State Agricultural college are planning to attend the annual meetings of the American Association for the Advancement of Science, at Columbus, Ohio, in the holidays, and all of them have been asked to present papers.

The papers will be read before the affiliated societies, as follows:

American Association of Economic Entomologists—"The Hessian Fly Train," Prof. Geo. A. Dean; "The Life History and Habits of Two New Nematodes Parasitic on Insects," Dr. J. H. Merrill; "A Preliminary Report of the Life History of the Kafir Ant (*Solenopsis molesta*)," J. W. McCulloch; "A Study of the Life History of the Maize Bill Bug," William P. Hayes.

Entomological Society of America—"Contribution to the Biology of Certain Aquatic Lepidoptera," Dr. Paul S. Welch.

American Society of Zoologists—"Glacier Oligochaeta from Mt. Rainier," Dr. Paul S. Welch.

PROFESSIONAL DEGREES OFFERED TO ENGINEERS

Postgraduate Honors Will Hereafter Be Granted for Successful Practice

Postgraduate professional degrees in engineering and architecture will hereafter be granted by the Kansas State Agricultural college, according to action just taken by the board of administration. Graduates belonging to classes previous to 1917 who have been engaged in practical engineering or architecture for five years, and graduates in 1917 or later who have been doing practical work for three years, may receive the degree of mechanical engineer, civil engineer, electrical engineer, agricultural engineer, or architect upon submitting a statement of experience and a satisfactory thesis governing some phase of practice. The difference of time required of the two groups of graduates is due to increased entrance requirements of the college.

These degrees are now being offered by the Iowa State college, the Michigan Agricultural college, and a number of other institutions of high rank.

JOURNALISM STUDENTS SEE LARGE PUBLISHING PLANTS

Inspect Big Offices and Shops in Kansas City—Learn of New Processes

A number of students in industrial journalism, accompanied by the faculty of the department, visited newspaper, printing, and engraving plants in Kansas City Monday. The various mechanical processes, including some of those most recently invented, were carefully explained to the students by those in charge, who showed the most courteous attentions.

TO RAISE ACRE YIELDS

PRESIDENT GIVES REASON FOR AGRICULTURAL TEACHING

Doctor Waters Condemns Fad Farming in Address Before Texas Pedagogues—Urges Study of Fundamental Problems and Modern Practice

"With a perfect stand of corn, each stalk bearing an average ear, the yield in Texas would be 115 bushels an acre. The average actual yield in Texas is less than 25 bushels. What has become of the other 90 bushels?" asked Dr. H. J. Waters, president of the Kansas State Agricultural college, in an address on agricultural education before the Texas State Teachers' association yesterday.

"Does the Texas farmer have one-fourth of a stand of corn; do only one-fourth the number of stalks bear ears; or are the ears only one-fourth the average size?" These were further questions raised by President Waters in discussing the reason for the difference between the actual and the possible yield.

HIGH SCHOOLERS BEAT FARMERS

"According to the records of corn and cotton contests in northern Texas," declared Doctor Waters, "the high school boys produced yields in corn and cotton three times those obtained by the average farmer in that part of the state."

The speaker insisted that the work in schools should relate directly to farm practice. He stated that seed testing should not merely satisfy the curiosity of children by showing them which seed would grow and which would not, but should result in increasing the yield of staple crops. "Fad farming," he said, "is waste of the child's time and loss of opportunity to the school. Farmers are eye-minded and muscle-minded. They cultivate cotton with the hoe, not with figures of speech."

SCHOOLS CAN WHIP BOLL WEEVIL

"The schools of Texas," continued President Waters, "should teach the children of the state how to whip the boll weevil and double the yield of cotton. This may be done by teaching them good seed selection, early planting, clean culture, and proper rotation.

"The work of the schoolroom must result directly in better crops and live stock. The children when grown must continue to produce as high average yields as they do now in their corn and cotton contests."

The speaker advocated common-sense methods in instructing children in the essentials of agriculture from the standpoint of successful farm practice. He urged the teachers to study fundamental problems of agriculture and to place the emphasis on the things that have been found worth while by successful farmers.

SEWELL WILL TEACH SOILS IN AGRICULTURAL COLLEGE

Alumnus to Return from Garden City—Board Makes Other Appointments

M. C. Sewell, superintendent of the Garden City branch of the agricultural experiment station, is to come back to the college as assistant professor in soils as soon as he can arrange to leave his present duties. Action to this effect was taken by the board of administration at its last meeting. Mr. Sewell holds a bachelor's degree from the Kansas State Agricultural college and a master's degree from the Ohio State university.

Miss May Carley was appointed assistant in voice in the department of music. Miss Carley is a graduate of voice and piano of Knox college and a former student in Chicago conservatories. She has recently been director of vocal studios in Salt Lake City, Utah, and Boise, Idaho.

The board appointed M. G. Kirkpatrick assistant in correspondence study. It accepted the resignations of Mrs. Elizabeth Harling, who is to become a seed analyst in the Minnesota Experiment station, and of C. E. Millar, instructor in soils, who is to take a position in the Michigan Agricultural college.

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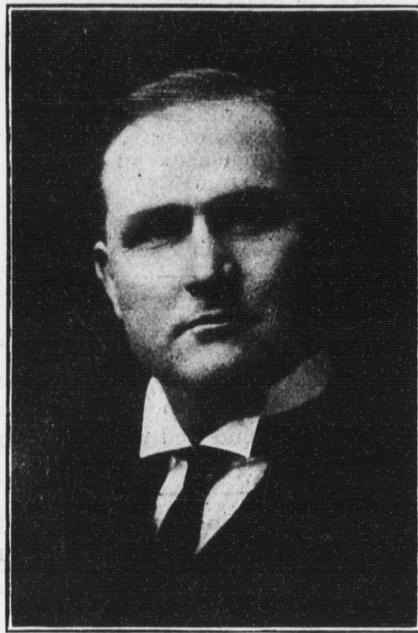
Number 11

WHOLE STATE IS CAMPUS

INSTITUTIONS REACH ALL RESIDENTS OF KANSAS

Report of Board of Administration Emphasizes Public Service Performed by Schools—Interest in Community Life—Scholarship and Democracy

The campus of each of the state educational institutions is "as wide and as long as the state itself," according to



ED. T. HACKNEY

the second annual report of the board of administration, Ed. T. Hackney, E. W. Hoch, and Mrs. Cora G. Lewis, to Arthur Capper, governor. The report has just been published.

Stress is laid on the service performed by the institutions not only to the students within their walls, but to the state at large. Further plans in this direction have been made by the board in its effort to direct the work of the schools toward the most modern and practical public service ideals.

"People in every city and hamlet, and even on the most remote farms," says the board, "have been brought directly in touch with these institutions. Every section of the state is reached and uplifted. The people need the extension work, and the work now largely meets their needs. Surprisingly large numbers of correspondence students do work for credit and are led to qualify themselves for actual attendance at one of the institutions for effective work in their vocation."

PEOPLE SEEK SCHOOLS' AID

"Never did the people turn so readily and freely to the schools for a solution of their many problems as now. The mail of this board is burdened with requests for the expert assistance



E. W. HOCH

of the schools in solving the great problems that come to the people of Kansas—sewerage problems, power plant problems, road problems, drainage problems, sanitary problems, civic improvement problems, pure water

problems, playground problems, and countless other problems of vital interest.

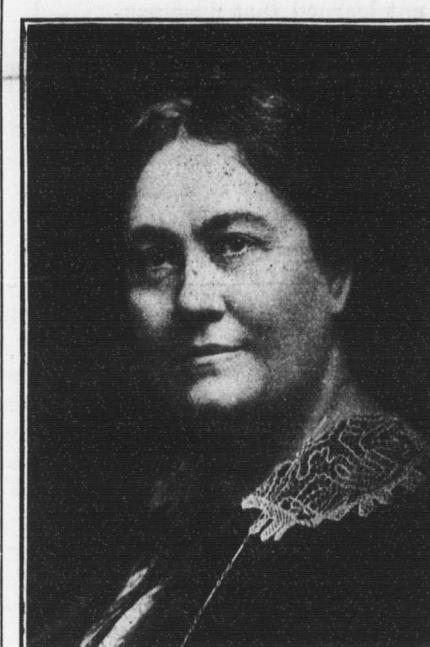
"The coördinating of the state work so that each institution handles its specialty, and refers other problems to other institutions, has increased the confidence in and respect for the work. Wisconsin, with all her reputation for service, is not at the present time more effectively serving the state than are the eight Kansas institutions. No problem vexes the varied activity of the Kansan that does not sooner or later find its way to some specialist in the schools. These specialists always respond and their efforts are helpful and appreciated.

"During the year 1915 the eight institutions under the administration of this board gave special education and instruction to 14,260 students who were in actual attendance in the institutions in the classrooms and laboratories. It gave instruction to 2,571 students who are residents of the state, through correspondence and extension courses. In addition, the University of Kansas has handled the sewerage problems, public health problems, and the various problems which influence the city, and has made life better and more worth while to the 660,175 residents of the various cities of the state.

REACHES RURAL POPULATION

"The Kansas State Agricultural college has been an especial assistant through farmers' institutes, movable schools, experiment stations, and its various other activities, to the 1,011,931 rural population of Kansas.

"The three normal schools have



MRS. CORA G. LEWIS

had as their especial mission the fixing of standards of efficiency for the 15,000 school teachers of the state, that the half million boys and girls under their instruction may derive the greatest good from the great sum of money expended for the support of our public schools.

"The School of Mines and Metallurgy at Weir has been actively assisting in the problem of making better and more satisfactory the conditions of the 15,000 miners of this state.

"The School for the Deaf has taken an active interest in the solution of the many problems confronting the deaf people in Kansas.

"The School for the Blind has given active attention to the vocational problems of making the 1,000 blind people of Kansas self-supporting.

"All of this has been accomplished at a cost to the people of Kansas of 56 cents on the \$1,000 of taxable property. Nowhere in the United States can such a record of accomplishments be shown for the whole people of the state for so small an expenditure of the public moneys."

Community movements are strongly favored by the board, which speaks

(Concluded on Page Three)

HOW TO CARE FOR SHEEP

SHELTER, GOOD FEED, AND RIGHT MANAGEMENT ARE REQUISITES

Expert Gives Advice on Bringing Animals Successfully Through Winter—Have Ewes in Vigorous Condition but Medium Flesh by Spring

Shelter, proper feed, and good management are the requisites in bringing sheep successfully through the winter season, in the judgment of A. M. Paterson, assistant in animal husbandry in the Kansas State Agricultural college.

"While some shelter is necessary," says Mr. Paterson, "close housing is not advisable, especially with the ewes in lamb. Large, dry yards in which the sheep have plenty of room for exercise are the first requirement.

"Seven or eight square feet of floor space in a shed is necessary for an average-sized sheep. The fleece affords sufficient warmth in dry weather and for this reason the main need for a shed or sheep barn is protection from storms. On most dry nights the sheep prefer to be out of doors and will winter better if allowed to be there."

FEED ROUGHAGE OUT OF DOORS

It is usually more convenient, says this authority, to have the feed racks inside, but some of the roughage should always be fed out of doors. With breeding ewes, toward lambing time, there is danger of injury in their crowding through narrow gates. It is a good plan to provide a pasture on which they can run during the days, especially in dry weather.

In wintering sheep to the best advantage, the owner should sort them by age, sex, and condition into various lots, otherwise some are almost sure to get more feed than they need, and others less.

It is economy to dispose of the wether lambs and cull ewes early in the fall and use the winter feed and quarters mainly for a large number of breeding ewes. The number that will do well together varies with the breed. Sheep will usually thrive better with not more than 40 or 50 in a lot.

The aim in wintering breeding ewes, according to Mr. Paterson, is to bring them to lambing time in good vigorous condition and in only medium flesh. This can be done by giving plenty of exercise and the right kind of feed regularly.

RAPE OR RYE IS GOOD

When the fall grass is soft, it is a good plan to start with a little dry feed before the ewes are removed from the pasture. Hay may be used at this time, although a feed of half a pound of grain per head daily can usually be fed more conveniently.

Rape or rye, sown with small grain or drilled in the corn, is excellent for fall feed and is also useful in the spring. This is an economical feed and is helpful in keeping the sheep in good condition.

With plenty of roughage, such as red clover or alfalfa hay, sheep can be carried until nearly spring with little grain. Corn silage can be used to furnish succulence, though some losses and a good deal of trouble have resulted from improper feeding of silage.

Sheep are peculiarly susceptible to injury from moldy feed. Poorly kept silage is therefore to be avoided.

GIVE EWES OATS AND BRAN

A ration of oats and bran makes an excellent feed for ewes with lambs at their side. The flock should have access to water and salt at all times.

In feeding rams during the winter season, the object is to feed them as cheaply as possible but at the same time keep them in a thrifty condition. Oats, bran, and oil meal may be relied upon to meet all the requirements of a grain ration. One-half to one pound a

day of this mixture, along with plenty of roughage, should be sufficient.

Lambs that are being wintered, whether ewes, rams, or wethers, require the same general conditions—adequate shelter and feeding.

Kansas offers excellent opportunities in sheep raising not fully realized by the average farmer of the state, say experts.

GIRL CLEARS \$72 ON LESS THAN TENTH ACRE

Miss Ruth McClure of Carlyle Makes Report of Highly Successful Garden Club Work—Raised Three Crops

One of the most striking reports of successful garden club work this year was recently made by Miss Ruth McClure of Carlyle. Miss McClure's garden was planted on a little less than a tenth of an acre of average soil near Deer Creek bottom. She raised three successive crops on the same land. This was done on the suggestion of the county agent, W. E. Watkins, who proposed radishes, onions, and peas for the first crop, tomatoes for the second, and squash for the third. Following his instructions, she was successful with all these crops and sold from her garden products to the value of \$83.25 in cash. Her total expenses were \$10.71, leaving a net income for her labor of \$72.54. The plot was measured by the county agent and lacked 348 square feet of being a tenth of an acre.

As Miss McClure's father is a member of the farm bureau in Allen county, the county agent had a good opportunity to help with suggestions in the garden work.

WILL MAKE MISSOURI VALLEY TAKE NOTICE

Next Year's Football Team Will Be Full of Good Material—Bender Conducts Post-Season Practice

Post-season football practice by the Aggie Wildcats is developing material that is expected to make possible a 1916 team that will cause the entire Missouri valley to sit up and take notice. Between 20 and 30 men are turning out for a workout each day.

"We expect to start out next fall with a rush," said John R. Bender, coach. "We are now working on the fundamentals—falling on the ball, kicking, tackling, and catching the direct pass. We are getting a line on the new men for next fall. Those veterans who have been excused from the post-season practice will turn out for work next spring. The team will be heavier than that of this season and should prove equally as fast. Prospects are certainly encouraging."

More than the usual amount of interest is being shown in basketball at the college. Practice work is in progress and inter-class games are about to start.

PRESIDENT WATERS SENDS GREETING TO EXPOSITION

Words from College Executive Will Be Read Today, at Event Closing Panama-Pacific Fair

A greeting to be read today, the last day of the Panama-Pacific International exposition, has been sent by Dr. Henry Jackson Waters, president of the college, at the request of Charles C. Moore, president of the exposition.

This is Doctor Waters' tribute:

"The Panama-Pacific International exposition has made its greatest contribution in giving the world a balanced vision of art and industry.

Every branch of science and every department of industry respond to the thrill of new life. Farm, and market, and factory feel the impulse toward better things. New meanings of education and of civic and social service

are clear to the world's leaders. The exposition has democratized and socialized the refinements of life."

SUDAN GRASS WILL STAY

IS PERMANENT CROP IN AGRICULTURE OF KANSAS

New Sorghum Furnishes Hay to Upland Farmers in Western Part of State—Two Cuttings May Be Made Annually—Cattle Relish It

Sudan grass, the new sorghum that received such widespread attention last year, is showing up well again in Kansas this year, according to G. E. Thompson, field superintendent of stations of the Kansas State Agricultural college. "The results of the trial plantings in all parts of the state show that it is a crop that has come to stay," says Mr. Thompson.

"In the western part of the state where other tame grasses cannot be grown, Sudan grass can be used successfully. Although the grass is primarily a hay crop, careful tests from the standpoint of a pasture crop have been made by the branch experiment stations at Hays and Dodge City, as well as by many of the farmers, and the results have been found promising.

"Western Kansas farmers feel that in Sudan grass they have a crop that will add thousands of dollars to their profits every year, since it will afford a hay crop to the upland farmer that will mean as much to him as alfalfa means to the bottom land farmer. The crop has been successfully grown in Shawnee and other eastern counties."

ACREAGE SHOWS BIG INCREASE

The acreage in Kansas this year was approximately 20,000, a heavy increase over last year, and there is no doubt, say the experts, that a record planting will be made next year. The almost universal satisfaction expressed by the farmers in all sections shows the value of the crop.

Sudan grass bids fair to replace some other hay crops in certain sections of Kansas, in the opinion of Mr. Thompson. Experiments have shown that under normal conditions two crops can be depended upon. The yield is larger than that of millet, being from four to six tons per acre. Furthermore, horses and cattle are fond of it and will leave almost any other kind of roughage for Sudan grass, cleaning up heads, blades, and stalks. One farmer said in a letter to the agronomy department of the college in regard to the feeding value of the hay: "It makes good hay that horses and cattle fall in love with at first sight."

GET SEED FROM FIRST CROP

Where a seed crop is desired the best practice seems to be to let the first crop mature for seed and harvest the second crop for hay. Planting is usually done about three weeks later than corn in the same locality. One farmer reports that from planting June 14 this year he harvested the first crop the last week in August, making six tons to the acre. The second cutting was made October 6 and a yield of two tons was obtained. This particular crop was grown on bottom land.

Some of the most desirable characteristics of Sudan grass are its drought resistant qualities, its ability to produce on thin land, and its quick maturity under ordinary conditions. These qualities, coupled with the seemingly superior palatability, make the crop reasonably sure of a permanent place in Kansas agriculture.

The yield of seed this year is so large that the price will doubtless be much lower than it has been in the past. Seed can now be obtained at from 8 to 10 cents a pound. The usual rate of planting is 20 to 25 pounds an acre for hay purposes, and 3 pounds in cultivated rows for seed production. One farmer reported a yield of 530 pounds an acre from 21 acres. The average yield has been 400 pounds in most districts.

THE KANSAS INDUSTRIALIST

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N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

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Newspapers and other publications are invited to use the contents of the paper freely without credit.

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Act of July 16, 1894.

SATURDAY, DECEMBER 4, 1915

Otoman Adusht Hanish, high priest of Mazda Znan, is to spend the next six months in jail, which will mean a half year of joy for the proof readers.

The Kansas farmer who raises sheep not only will make a good tangible profit, but will also be the gainer in that the insects harbored by weeds will be largely destroyed.

The United States geological survey has just informed the public that in 1881 drillers of a deep well in Nevada struck a bed of petrified clams. There's nothing like taking time for confirmation of a news story.

Some of the newspapers are talking about the "confederate soldiers" that were in charge of John Brown, the last of these men having recently died. Brown was executed in 1859, before the confederacy came into existence.

SPECULATING ON THE WAR

An American reads with a great deal of interest and curiosity the accounts of speculation in war risks in European countries, particularly in England. A recent dispatch gives that Lloyd's was offering the risk of 3 to 1 that Ferdinand, king of Bulgaria, would not be on his throne June 1, 1916. The risk started at 20 to 1, but the turn of affairs in the Balkans drove it down.

An interesting fact is that most of those who are betting that King Ferdinand will retain his throne are Englishmen with business interests in Bulgaria. Their losses would normally be great if Ferdinand retained his throne. They are trying to assure a minimum of loss whichever way the tide turns.

Technically this is insurance, but the wide variety of policies issued makes it totally different from insurance as understood in America. One may take out a policy on the life of any prominent man or women or a policy on the duration of the war, in which Lloyd's offers odds of 10 to 1 that it will not last beyond December of next year. A soldier may take out a policy in which he bets with the company 8 to 1 that he will not be killed.

All this seems very curious to the average American, but it is a well recognized form of business in foreign countries. Lloyd's, which does most of the English business, is an association of underwriters, ship owners, and marine insurance brokers. Matters connected with maritime commerce were its first purpose. The association has existed for nearly 150 years and was formally incorporated by parliament something more than 40 years ago. Its quotations receive attention throughout the civilized world.

FOR INDUSTRIAL EFFICIENCY

The plan which will be proposed to congress for increasing the industrial resources of the United States through investigations in experiment stations at the land grant colleges should receive the most serious consideration. In 1887, when the first federal funds were appropriated to the stations for agricultural experimentation, it seemed doubtful to many if anything of permanent worth would be accomplished.

The actual results of the expenditure of these funds, however, show that even those most sanguine of the benefits to come from the appropriations were far from estimating the true worth of the system which they established. The benefits derived by the people of the United States from the modern agricultural investigations made possible by this means are incalculable.

It is not improbable that the industrial resources of the United States are as far from complete development as were the agricultural resources 30 years ago. If the country is to continue prosperous it must change the raw into finished products as economically as possible. Methods of accomplishing this can be obtained only by careful investigation, and there is no place where investigation can be better done than in the American college.

A MESSAGE FROM ABROAD

Messages from older agricultural countries than our own are always welcome, and particularly when these countries have solved problems soon to become of high importance in American life.

The views expressed by Sir Horace Plunkett, one of the best known Irish thinkers of the day, in Chicago this week, are therefore of special interest. He was the first minister of agriculture in his country and is the father of the Irish co-operative movement. After a careful survey of conditions in the United States, he believes lack of business organization on the part of farmers to be the chief difficulty with American agriculture.

His advocacy of co-operation is well worth the attention of every American interested in agriculture:

"I do not think you will ever be able to get either the brains or the capital of American farmers properly applied to production until they find some means of escape from a business situation which gives them, to say the least, a precarious hold upon the profits of their industry. The way of escape is no other than co-operative organization.

"When you come to the part which co-operative organization may play in the social improvement of your rural communities you are confronted with one comparatively new factor which will be somewhat surprising to my British and Irish friends. There is a marked tendency throughout the United States from occupying ownership to tenancy. It is extremely difficult to get people who have no abiding interest in the place of their habitation to concern themselves for all those things which must be attended to as to insure a progressive and agreeable social life in a community. Again, your rural communities are often badly handicapped in their social life by the fact that they contain groups of different nationalities, sometimes speaking languages unintelligible to each other.

"Finally, the great distances which often divide the rural inhabitants in your huge country are a formidable obstacle to common action.

"I mention these adverse factors not as a reason against, but as a reason for, co-operation. Co-operation is the best—I might almost say the only—foundation for a rural community. It will go far to put an end to the migratory habit and to create a desire to have a permanent home and a progressive social existence. A good co-operative organizer can teach farmers how to make use of the telephone and the motor car in discussing and conducting their common affairs, and thus overcome the difficulty of distance."

SOUTH AMERICAN JOURNALISM

In proportion to its population Buenos Aires probably supports more periodicals than any other city in the world. Of its great number of daily journals, some 15 are essentially Argentine in their character; that is, they are devoted to national interests. In the neighboring republic across the River Plate the beautiful little land of Uruguay—though it is little only in comparison with the Argentine, being in extent considerably larger than England—journalism has reached a no less remarkable degree of development. The capital city, Montevideo,

contains barely 300,000 inhabitants, and yet it contrives to support 11 daily newspapers. Of these, half a dozen will bear comparison with the average English daily, but for the rest their existence is due chiefly to political reasons.

An interesting feature of Chilean journalism is the simultaneous publication in different cities of journals bearing the same name and under the same proprietor. Thus, El Mercurio is issued independently and from an admirably equipped office in Valparaiso, the two journals being quite dis-

catch a bit of conversation were we at all sure that she could hear. But a few short months ago Fashion took away all her hair and she appeared almost shaven and shorn—but she had ears. Some women had nice big ones and others had little ones that looked as if they were beginning to atrophy. And now that we are used to the beautiful ear, which seems to have been intended to round out the contour of woman's face, it must go. For the new small hats that are coming to vogue are high-crowned and narrow-brimmed and are worn well down on the head, Why hasten away?

TIME, YOU OLD GIPSY MAN

Ralph Hodgson

Time, you old gipsy man,
Will you not stay,
Put up your caravan
Just for one day?

All things I'll give you
Will you be my guest,
Bells for your jennet
Of silver the best,
Goldsmiths shall beat you
A great golden ring,
Peacocks shall bow to you,
Little boys sing,
Oh, and sweet girls will
Festoon you with may,
Time, you old gipsy,
Why hasten away?

Last week in Babylon,
Last night in Rome,
Morning, and in the crush
Under Paul's dome;
Under Paul's dial
You tighten your rein—
Only a moment,
And off once again;
Off to some city
Now blind in the womb,
Off to another
Ere that's in the tomb.

Time, you old gipsy man,
Will you not stay,
Put up your caravan
Just for one day?

SUNFLOWERS

CHRISTMAS SUGGESTION

It is more blessed to live than to deceive.

If you don't care to get on in the world, sit around and wait until you are inspired.

Every successful musical comedy nowadays must have a pretty woman get drunk in it.

A very learned friend informed us the other day that "variation in absolute subordination is a cosmic law." What do you think about it?

MISSOURI AS SHE'S SEEN

Miss Lyne was born in Missouri, and she spent her girlhood in Kansas City, although extremely musical.—Program of Tremont temple concert, Boston.

A good many people have suddenly decided that Henry Ford is a fool. It must be remembered that the manufacturers of automobiles were sure of that five or six years ago. They are not so certain of it now.

CHICAGO MATHEMATICS

About one five hundredth of the people die of pneumonia every year and since four out of five who have pneumonia die of it it follows that about one out of every one hundred of the population have pneumonia every year.—Dr. W. A. Evans in the Chicago Tribune.

THE CLEVER ENGLISH LANGUAGE

Just the other day we heard a story about a very prominent banker who was found dead at the side of the road near his automobile. There was a 32 caliber bullet in his brain. The coroner's jury reported that "there were no marks upon the body."

THE FAVEROLLES

The Faverolle is today the first utility poultry breed in France. It is the fourth of the French breeds to be admitted to the American standard, and be given a place in our show room classifications. The Houdan, the Creve Coeur and the La Fleche preceded the Faverolle by many years, and each of these older breeds has been noted for large white eggs and fine flesh values.

The Faverolle does not possess the same purity of blood of the other French breeds, but enjoy the same standing today as a standard breed. The Faverolle is a composite fowl, taking its beard and muffle from the Houdan, and its large size and long body type from the Dorking. Like all English and continental market fowls, it has white skin. This is a prime requisite in table poultry in the European markets.

Each country to its own tastes, and to France the Faverolle. American breeders are taking up the breed, appreciating its ability for rapid growth, its full-meated breast, and fine texture of flesh.—F. L. Platt in the Field.

Gladsome Days in Business

Associated Advertising

Gladsome days these are for the square man, and happier days are coming. It is a bright time for him and the future is still brighter.

To the man whose natural choice is the square deal, who has departed from it with the sincere thought he had so to do in "meeting competition," pleasanter and more profitable methods are more easily available now.

For the man who has had the courage of his convictions and has stood firmly upon a platform of truth regardless of what others have done, these newer times hold a still brighter future. For the day will come when the people will remember him as a pioneer in a good cause.

The day is near at hand when the first essential for business success will be a constant, watchful, jealous consideration for the welfare of the buyer—and when the buyer will have an equal care that the seller, in his turn, shall receive full measure of consideration.

The most successful business man, nowadays, is he who has the keenest appreciation of the fact that he is a public servant—that he is a servant as truly as the corporations that operate our so-called public service properties. And there is many a merchant and many another business man who has a much keener appreciation of his obligation to the public than many of these corporations today. For proof, witness the public's attitude toward many public service companies.

In many lines, even now, none but the square man can hope even for moderate success.

Ah yes; we still have among us a multiplicity of facile liars; selfish fellows who have not learned that unselfishness is more profitable—who have not learned to take full advantage of their business opportunities. But competition is weeding them out, surely, if slowly.

Why all these changes? Simply because business men are learning that the money is on the side of the square deal.

tinct, and it is also issued in Antofagasta, a two days' journey by sea from the capital. The independent issues in Valparaiso and Santiago are remarkable, but are explained by the infamous railway service, which makes a journey of four or five hours out of what ought to be the matter of an hour and a half at most. El Chileno is issued independently in Valparaiso and also in La Serena, an important town in Northern Chili, while La Union has

splendid offices and printing plants both in Santiago and Valparaiso, and also publishes independently in the important southern city of Concepcion.

In the strange highland republic of Bolivia, lying among the Andes, to the north and east of Chili, with its most important city, La Paz, situated at an altitude of nearly 12,000 feet, where it takes the foreigner weeks to become acclimated, one would hardly look for much journalistic activity, yet in La Paz there are no fewer than six daily papers.

As an example of how the Bolivian, who is more essentially Spanish than the inhabitants of any of the other republics mentioned, takes his daily reading, it is worth noting that in the mornings the little Indian boys who sell the papers in the streets call "Los cuatro" (the four), by which they offer you the four principal morning papers at one bite! It was quite curious to see any number of people buying four morning newspapers at once, each of them costing about the equivalent of our penny.—J. A. Hamerton in Sell's World's Press.

THE EARS MUST GO

Dame Fashion has decreed that the ears must go, so they go—that's all. For 10 or 15 years, probably, we had wondered if Milady had ears, they were so swathed in hair, and only occasionally when she lifted the mass to

so if the hair is to appear at all it must be brought low—consequently ear coverings and ear curls have returned. In many cases this portion of the hair is about all one glimpses between the narrow modish hat rim and the high upstanding collar, so popular this year. The hair is drawn loosely over the upper half of the ear, or it is looped over it so that only the lower lobe shows a tiny bit. Then there are the ear curls.

They take on two forms—that of the strictly disciplined "spit" curls, so common in the eighties, and the less artificial curls which form a cluster of hair just in front of the ear. All of these aim to hide this most useful organ. So woman goes deaf again for a time.—Emporia Gazette.

A QUARTER CENTURY AGO

Items from the Industrialist of December 6, 1890

A new clock has been placed in the society room occupied by the Hamilton and the Ionian societies.

Regent Hessian returned on Thursday from Indiana, where he ate Thanksgiving dinner with his father.

The college has received this week the first instalment of \$15,000 under the college aid bill, which became a law August 30 last.

J. H. Calvin, '84, and Henrietta Willard Calvin, '86, celebrate November 28 as the birthday of their youngest child, a daughter.

Professor Georgeson attended the meeting of the State Horticultural society at Topeka, and spoke briefly on pear culture in Japan.

The senior class of Washburn college has eight members. The Argo says that two of these wear plugs, from which we conclude that the class has six lady members. Did we guess right?

AMONG THE ALUMNI

Born, to Mr. and Mrs. Ray D. Laffin, Hettinger, S. D., on November 5, twin sons, Ray Delbert and Rea Carmack.

Rees Hillis, '12, of Anderson, Mo., is enjoying prosperity on a fine fruit farm. He writes that last year he sold \$4,800 worth of apples. This year his crop is light, but he will sell \$1,500 worth.

Mr. and Mrs. Elmer A. Bull, '08, write from the State Normal school at Albion, Idaho, that the world is treating them finely, and that they and their little daughter are enjoying excellent health.

G. H. Mydland, '14, who is practicing veterinary medicine in Everest, writes: "I am sending my check for \$1, which amount I am very glad to contribute to the alumni association's support."

L. A. O'Brien, '14, writes, in sending the \$1 assessment levied by the alumni association, that he is in engineering work with the Western Electric company of Chicago. He is located temporarily at Cicero, Ill.

R. W. Edwards, '11, is in the forage crop offices in Washington, D. C., writing his annual report and preparing for next season's work. Activities on the Chillicothe Forage Crop Testing station, of which he is superintendent, have progressed most satisfactorily.

R. H. Musser, '14, who is engaged in extension work in Idaho, sends the \$1 assessed by the alumni association, and writes: "I heartily approve of the action taken by the association in regard to the special tax as it is certain that we need a definite income for the upbuilding of our state schools."

IT'S NOT TOO LATE

A misunderstanding seems to exist on the part of some alumni, according to Miss Ada Rice, secretary of the association, in regard to the payment of the \$1 assessment. The fact that they neglected to pay it when the circular letter was received seems to have given the impression that it is too late to be of service to the association. Inasmuch, however, as the assessment must cover the expenses of the association and its committees through the campaign of next year for a state tax levy for the support of the institutions of higher learning in Kansas, the money will be acceptable at any time during 1915 and 1916. Until the money is actually in hand, the association will not know whether its work is to be supported or not. So far it has received only \$210, although letters have been sent to all graduates, except to the members of the class of 1915.

STARS CALL NICHOLS

High commendation of Dr. Ernest Fox Nichols, '88, is contained in an article in the Kansas City Times, headed "Stars Call Kansan Who Has Won World Fame in Science." The article, which deals chiefly with Doctor Nichols' scientific achievements, follows:

A starbeam from Arcturus, sent millions of miles through space to the earth, carries some heat along with it. It remained for a Kansan to measure the amount of this heat. To do it, an instrument so delicate that it deals in infinitesimal fractions was required, and when it was made and applied it showed that the Arcturus beam on arriving at the earth throws out one-one hundred millionth part as much heat as does a candle at a yard's distance. To gauge this, the instrument had to be delicate enough to measure the candle's heat at a distance of one mile.

In the meantime, he explained, he would be cut off from the scientific research work to which he had devoted 20 years before becoming president of Dartmouth, and he wants to continue his scientific work.

In his new chair at Yale, which he will assume after the close of the Dartmouth year, he will have unlimited opportunity and will be associated with men also high up in the scientific world. His friends and admirers, who are many, particularly among the Dartmouth, Cornell, and Columbia educators with whom he has been associated in the past, predict greater achievements for Doctor Nichols in his new field than those which have won fame for him heretofore.

It took him from an orphaned boy of 15 in his native town of Leavenworth to the presidency of Dartmouth col-

lege by a route of difficulties which would have hampered if not blocked the ordinary man at every turn. The making of the radiomicrometer by which he measured the heat of a starbeam was only one of many.

And now Dr. Ernest Fox Nichols has resigned the presidency of Dartmouth to accept a chair of physics at Yale, where he will have the time and opportunity to solve other problems of science which no man yet has solved. Always the stars have interested him, and much of his scientific research has been in the realm of astronomy, so it was no wonder that he looked to the vaulted heavens for a figure of speech when he announced his decision in Webster Hall, the auditorium at Dartmouth, the other day. He said:

"When a man sees his guiding principle clearly, if he looks upon it sadly he calls it duty, if gladly he calls it his star. Whether it be star or duty he must ungrudgingly leave home and friends, if need be, and pursue. To me the path ahead is a duty, lighted by a star, and I follow it."

It was in 1884 that Ted Nichols' parents died and he went to live with an uncle, S. W. Fox, at Manhattan, Kan. Entering the Kansas State Agricultural college there, he began a course which resulted in his graduation four years later with a degree of bachelor of science. He remained a year longer for graduate work and then went to Cornell, where he spent two years and won a fellowship in physics. The chair of physics at Colgate university rewarded him, and he held this post for six years, but for two years was abroad in Berlin, on a leave of absence, during which he perfected the radiomicrometer and was accorded wide recognition by the scientific circles of Europe.

For the next five years he was professor of physics at Dartmouth, where he added another to his remarkable scientific achievements.

He measured the pressure of a beam of light, devising a mechanism for measurement even more delicate than that by which he had gauged the heat of starbeams. His next advancement came with the tender of the chair of experimental physics at Columbia university, which he held for two years. In the meantime he had spent a year at Cambridge, England, as a lecturer and student. Then the presidency of Dartmouth was offered him, and for nearly seven years he has been at the head of that great school.

Doctor Nichols was the tenth president to be installed in Dartmouth after George III of Great Britain had chartered the college at Hanover, N. H. His inauguration in 1909 was one of the great events of the school's history.

There had been the centennial celebration of Daniel Webster's graduation before, but even it was no bigger affair. More than one hundred colleges were represented at the ceremony and famous men from many lands were present.

His has been a distinguished and successful administration, but he does not hesitate to relinquish its dignities and duties, because the stars are calling him.

In his letter of resignation to the college trustees Doctor Nichols said he feels that he has given to Dartmouth all that there is in him to give. In an interview later he added that to finish his active life at the head of Dartmouth would probably mean a 30 years' service as its president, and that he believed he could do no more in 30 years than he has in seven.

In the meantime, he explained, he would be cut off from the scientific research work to which he had devoted 20 years before becoming president of Dartmouth, and he wants to continue his scientific work.

In his new chair at Yale, which he will assume after the close of the Dartmouth year, he will have unlimited opportunity and will be associated with men also high up in the scientific world. His friends and admirers, who are many, particularly among the Dartmouth, Cornell, and Columbia educators with whom he has been associated in the past, predict greater achievements for Doctor Nichols in his new field than those which have won fame for him heretofore.

RAISE THEM FROM SEED

GROW PLANTS IN WINTER IN ORDINARY LIVING ROOMS

College Expert Tells of Soils and Methods of Propagation—Many Beautiful Flowers May Be Obtained by Kansan at Minimum of Expense

The average lover of flowers in Kansas does not realize the fact that many of the best house plants can be raised from seeds in ordinary living rooms, or where potted plants are grown in the window during winter. Such, however, is the case.

"When only a few plants are to be started," says M. F. Ahearn, associate professor of horticulture in the Kansas State Agricultural college, "un-glazed pots or seed pans are often used, but flats are cheaper. These flats—broad, shallow boxes such as are used in greenhouses—are better than pots for starting the seed. They save both time and trouble.

A good propagation soil is made of equal parts of (1) fibrous loam from the compost heap, (2) sand, and (3) leaf mold, woods soil, or peat.

"Over the holes or cracks in the flats put an inch layer of broken pots, clinkers, gravel, or rough soil for drainage. Then put through a sieve part of the already mixed seed soil. Spread this over the rough material and press firmly with a flat board. See that the surface is practically level. Sow the seed and cover lightly with very fine light soil which has been put through a flour sieve.

KEEP SOIL THOROUGHLY DAMP

"Water the soil thoroughly after sowing the seed. The best way is to set the flat in a large pan partly filled with water, which thus can soak up from below. This is better than overhead watering, because no matter how fine a spray may be used, it is apt to wash the soil.

"Cover the box with a loose fitting pane of glass to keep a more humid atmosphere, thus reducing the evaporation from the soil. Every day remove the glass and wipe off any water of condensation which may be on it. Place the flat so that it will be shaded from direct sunlight."

The following is a list of plants which may be grown successfully from seed in the house: Cyclamen latifolium, Persian cyclamen; Abutilon striatum, flowering maple; Ageratum Mexicanum, floss flower; Browallia demissa, aethyrist; Campanula pyramidalis, chimney bell flower; Cuphea platycentra, cigar plant; Datura cornucopia, trumpet flower; Dracaina indivisa, dragon plant; Hoya carnosa, wax plant; Impatiens balsamina, balsam; Ipomea inamoclit, cypress vine; Lippia citriodora, lemon plant; Mesembryanthemum crystallinum, ice plant; Mesembryanthemum tricolor, wax plant; Mimulus moschatus, musk plant; Pimula sinensis, Chinese primrose; Pimula forbesi, baby primrose; Salvia splendens, scarlet sage; Vinca major, periwinkle; Viola tricolor, pansy.

WHOLE STATE IS CAMPUS

(Concluded from Page One)

particularly of musical activities. On this subject the report says:

CELEBRATE HOLIDAYS WITH SONG

"The delight of helping to make music is one that is never forgotten in a community, and the democracy of group singing will help solve many social problems and bring a new neighborliness that, once established, will live as an inspiration to the best impulses of civic life.

"A 'safe and sane Fourth of July' can be celebrated by singing American folk songs and ballads that awaken and cause the heart to recall the associations that make our country dear. The city should unite in this celebration. We urge all those interested in music to seek every occasion to bring the community together to sing.

"In January, celebrate Kansas day singing songs of our state; in February, Washington's birthday, with larger national anthems. In March, Saint Patrick's day may be recalled with the melodic Irish airs, and there

are old English songs for April, simple and easily sung. May day should be celebrated by an outdoor songfest of spring songs and old songs. Through June and July, in addition to the Fourth of July singing, we should have 15 minutes of community singing at each concert given by a town band, and conducted by the band leader. In August and September every country community should have harvest song festivals—'safe and sane Halloween singing' could take the place of the rowdyism which prevails on that night. Thanksgiving day should find the community in every church in the state singing the praises of the bountiful giver. December should close the year with Christmas carols sung by bands of neighbors standing under the stars, singing the worship of their savior."

Scholarship and democracy are emphasized by the board in the student bodies of the institutions. The board has established the policy of employing students to do janitor service and other kinds of work necessary to be done around the institutions.

"MOPPING" WAY THROUGH SCHOOL

"This," the report goes on to say, "helps some hundreds of deserving boys and girls to prepare themselves for life and it makes a really democratic feeling in the institutions. It brings to the institutions some of our best students and brings them into contact with those of wealth and position.

It makes wealth and position realize that even the student who works his way through school is able to win laurels in college life. More than half the students, in the eight educational institutions under this board, are paying the whole or a part of their way through school. These students are among our brightest and best, for the boy who 'mops' his way through one of these institutions of higher learning is pretty sure to learn the value of time and effort and to benefit accordingly.

"As a further incentive to scholarship, each institution has put into force the request of the board that each organization be ranked as to scholarship. Practically every student belongs to some organization. Each organization has a pride in its scholarship rank and encourages more earnest effort from the slothful. The result is a very marked improvement in the students' work during the last two years."

An increase of 3,525 is shown in the attendance at the eight institutions under control of the board. In 1913 the total enrollment was 10,735, while now it is 14,260.

The board speaks in high terms of the stability, enthusiasm, and aggressiveness of the faculties of the institutions. The report deals in considerable detail with the improvements in the presentation of various important subjects.

KANSAS BEEF PRODUCERS ARRANGE STRONG PROGRAM

Experts Will Speak in Christmas Week on Subject of Purebred Cattle

The Kansas beef producers have an especially strong program arranged for their meeting during Farm and Home week at the Kansas State Agricultural college, December 27 to 31. The subjects of purebred cattle and the breeding business will be considered from every standpoint.

E. F. Caldwell of Burlington Junction, Mo., president of the American Aberdeen-Angus association, will give an address on "The Development of the Purebred Herd." F. W. Harding of Chicago, secretary of the American Shorthorn Breeders' association, will speak on record associations and how they can help the breeder and the farmer, and R. J. Kinzer of Kansas City, secretary of the American Hereford association, will discuss the subject, "The Sale of Purebred Live Stock."

This program will be given Friday afternoon, December 31, beginning at 2 o'clock. Prof. W. A. Cochel of the agricultural college will preside. A large representation of the breeders of the state is expected not only at this meeting but throughout the week.

SCHOOLS TO SERVE ALL

DR. FRANK CRONE URGES EDUCATION TO AID MAJORITY

Philippine Official Tells of Success in Training Natives—Wholesome Sports Have Been Built Up—Teachers Get Information to Adults Also

A course of study in the common schools that will serve the interest of the majority rather than that of the small minority who go to the universities was urged by Dr. Frank L. Crone, director of education in the Philippine islands and regent of the University of the Philippines, who addressed the student assembly Tuesday morning on the subject, "Our Educational Experiment in the Philippines." The type of course advocated by Doctor Crone is in effect in the islands.

"You must know that parcel post and agricultural banks were known in the Philippines before like reforms were made in the United States," said Doctor Crone. "We have set up a system of schools in the Philippines which we believe will react favorably on American schools. Instead of starting a child on a course of study which aims him at the university, as in American schools, we are training the pupil for the life which we know he will enter."

CHICKENS WERE FILIPINO ATHLETES

There was no system of playing or recreation among the children of the Philippines when the Americans began their task of building an educational system, according to Doctor Crone. Athletics by proxy was more highly developed than under the American system—the Filipinos had a chicken do the performing. Under the Spanish system of schools, the children studied aloud. Since they had no games to play on the grounds at intermissions, the teachers had the peculiar experience of having the children come back into the schoolroom soon after they were dismissed, where, childlike, they enjoyed the noise. This has all been changed for wholesome sports.

The development of the Filipino schools has been rapid, said Doctor Crone. Forty-three hundred schools with a teaching force of 10,000 is the showing for 14 years of work. Pupils attending the schools aggregate 625,000, but this is only half the number that should be enrolled. That is impossible for the present, he pointed out, because of lack of funds. The schools are supported entirely by the Filipinos.

One thing which makes the public schools of the Philippines of great help and interest, said the speaker, is the fact that the children tell their parents what they hear at school and are believed. Thus the school is a publicity bureau for the islands, the children, and the parents in turn, learning with eagerness the topics of general interest told of by the teachers.

KANSAS FARMERS USE LIVE STOCK TO MARKET ROUGHAGE

Subject Will Be Discussed at December Farm and Home Institutes

Kansas farmers, more than ever before, realize the value of live stock as a means of marketing the large quantities of roughage which would otherwise go to waste, points out Edward C. Johnson, dean of the division of extension in the Kansas State Agricultural college. "In fact," he says, "every year demonstrates in one way or another that live stock should have an important place on every farm."

"The subject, 'Live Stock for Our Farms' is appropriate for the December farm and home institutes. It should appeal not only to every farmer, but to every stock owner throughout the state."

Here are some suggested topics for discussion at the institute meetings: profitable stock classes, breeding, feeding, live stock sanitation, and community breeding.

Several valuable books on the European war, recently published, have been received at the college library, and are much in demand.

FEDERAL AID SOUGHT FOR ENGINEERING EXPERIMENTS

DEAN A. A. POTTER, AS SECRETARY OF NATIONAL ORGANIZATION, IS OBTAINING CO-OPERATION OF MANY AGENCIES IN SUPPORTING PROPOSED LEGISLATION

Federal aid for experimentation in engineering, or mechanic arts, in land grant colleges is to be sought from congress. A. A. Potter, dean of engineering in the Kansas State Agricultural college and secretary of the Land Grant College Engineering association, is seeking support for a federal aid bill that will give each state \$15,000 a year.

The help sought is along the same line as that now given to agricultural experimentation. Engineering experiment stations now exist in a number of institutions, including the Kansas State Agricultural college, and are doing valuable investigative work, which is hampered, however, by lack of funds.

Dean Potter has sent out a letter asking the co-operation of the presidents and deans of the land grant colleges, the officers of the national engineering societies, the editors of important engineering magazines, the members of the naval board, and others. The letter follows:

DEVELOP AMERICAN RESOURCES

"The testing stations of the German government which are found in many of the technical colleges have contributed greatly to the German industrial efficiency. Why cannot the United States government utilize the brains and equipment of the land grant colleges in the various states for the development of its natural resources and many of the chemical, electro-chemical, and physical processes in which Europe has excelled?

"Your co-operation is solicited in connection with a proposed bill for mechanic arts experimentation, a 'preparedness-for-war' measure which seeks to increase the industrial efficiency of the United States.

TO DO VARIETY OF WORK

"By the terms of the proposed bill, there will be established under the direction of the land grant college in each state a department to be known as a mechanic arts experiment station, for the purpose of conducting original researches, verifying experiments, and compiling data in the mechanic arts and in their application to the improvement of conditions of the rural and industrial classes of the United States; also for conducting researches, investigations, and experiments in connection with the production, transportation, extraction, and manufacture of substances utilized in the application of mechanic arts to industrial pursuits; and such other researches or experiments bearing directly on the various industries of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states.

"For the purpose of carrying out the requirements of the proposed bill, the federal government will be asked to appropriate a sum of \$15,000 per annum to each state.

EMPLOY UNIFORM METHODS

"In order to secure uniformity of methods and results some department of the United States government will be designated as coordinator, to act in the same relation to the proposed mechanic arts experiment stations as that now existing between the department of agriculture and the agriculture experiment stations of the various states.

"Experimentation and research in mechanic arts have at all times received more or less attention in the land grant colleges, the teaching work in engineering and in other branches of mechanic arts being of such a character as to demand activity in such lines on the part of teachers.

"In several states, including Illinois and Iowa, appropriations by state legislatures for research in mechanic arts were occasioned by the demand from the industrial interests of the

states for scientific experimentation relating to mechanic arts. That these appropriations were well utilized is evidenced by the fact that about 150 bulletins were published by these two stations within the past 10 years, most of which are among the most authoritative literature on the subjects treated.

OVERWORKED TEACHERS INVESTIGATE

"The land grant colleges of about 15 other states maintain definite organizations for carrying on research in mechanic arts, but have no support from their states or from other sources for such investigations. The investigations in such cases have to be carried on by overworked teachers and the results are very unsatisfactory. Experience has demonstrated that for best results in experimental work, some investigators must be employed on full time to handle the details, with teachers co-operating as advisers and directors.

"Several land grant colleges are co-operating with the various bureaus of the United States government in investigations relating to irrigation, fuel resources, and similar problems. With a mechanic arts experiment station at the land grant college of every state, such co-operation could be carried on more effectively and to a much greater extent.

"Experiment stations in the mechanic arts will also co-operate with the agricultural experiment stations in solving engineering problems which are intimately related to the industry of agriculture. Such problems include flood protection, drainage and irrigation, water supply, sewage disposal and farm sanitation, rural architecture, and road building.

PARALLEL AGRICULTURAL WORK

"The proposed federal aid for systematic experimentation in mechanic arts is analogous to the aid provided in the Hatch act of 1887 and is for the purpose of paralleling the excellent work which has been carried on by the agricultural college experiment stations.

"The Hatch act and the proposed bill are alike supplementary to and in full accord with the Morrill acts of 1862 and 1890. The Morrill acts provide for instruction in 'such branches of learning as are related to agriculture and the mechanic arts . . . with special reference to their applications in the industries of life.' The Hatch act and the proposed bill provide for 'experimentation in agriculture and in the mechanic arts.' With the establishment of experiment stations in mechanic arts, the mineral and other natural resources as well as industrial problems of the various states and of the nation will receive attention similar to that now received by the agricultural resources and agricultural problems."

FARMERS REALIZE VALUE OF GOOD DAIRY CATTLE

Leavenworth County Sale Shows Trend of Feeling—Drainage System Started

The farmers of Kansas are more and more realizing the difference in value between cows of pronounced dairy characteristics and common cows used for dairy purposes. P. H. Ross, county agent of Leavenworth county, reports that at a recent sale held in this county, the run of the common stuff was from \$40 to \$65 apiece, while cows with good dairy characteristics were bringing \$95 each.

Some farm bureau members in Leavenworth county have recently co-operated in purchasing a carload of tile. This has already been laid and a great amount of water is being carried through a drainage system. The tiled land will be used by Mr. Ross as a demonstration of the value of drain-

KEEP HARMONY IN HOME

YOU DON'T WANT DISCORD EVEN IN COLOR, SAYS EXPERT

Yellow Tulips and Big Red Roses May Do in Popular Songs, but They Don't Belong on Civilized Walls—Keep Backgrounds Neutral

"The fundamental principles of home decoration are the same for the farmer's wife as for the wife of the millionaire," says Miss Araminta Holman, instructor in home decoration in the Kansas State Agricultural college. "That which is suited for the home is appropriate whether in the cottage or the palace.

"There are three important elements of decoration—color, form, and arrangement.

"In the first place, the eye must be trained in color combinations. Bright colors and tints should not be used unless one is sure they are being used correctly.

"If you like a color and wish to use it in the decoration of the home be sure you have some good reasons for using it.

"Bright colors should not be used together, for they are too intense and will discord—and discord in color is as bad as discord in music."

PEOPLE BELONG IN FOREGROUND

The home is the background for the family life, according to Miss Holman. The background of a good picture is neutral in color; likewise the background of the home should be neutral and of less importance than the persons in the home, who are the objects in the foreground.

The wall paper is the background of the room and should be of a small, indefinite design. Large flower or scroll designs will attract more attention to the wall and detract from the beauty of the room.

Unity is also a fundamental point in the home. The furnishings of the home must not look like a collection. The whole house should be as one. If this is not possible in the whole house it should be so in each room at least.

"All decoration should be in harmony with the structural lines of the room," says Miss Holman. "If a room is square, the rugs, the portières, and the curtains should follow the structural line of the room. The curtains should not be draped back, as this breaks the structural line. All large pieces of furniture should be placed so that they follow the line of the room."

USE TWO WIRES FOR PICTURE

If you wish changes in the furniture from time to time move the smaller articles around. Always hang a picture by two wires, and have the wire as inconspicuous as possible, for the eye should not be attracted to the wire but to the picture.

The decoration of each room should be suited to the purpose and use of that room.

Have in the bedroom the articles that can be used there. Light and dainty furniture is the most appropriate.

The hall is the entrance to the home, the place where you meet your guests. It should be cheerful, yet simple and rather formal. The living room is the center of home life and is to be made the most cheerful room in the house.

EVERY MAN SHOULD BE EXTEMPORE SPEAKER

Inability to Talk Effectively Prevents Public Service, Says Dr. John R. MacArthur

Every man should be trained in the art of extemporaneous speech, in the opinion of Dr. John R. MacArthur, associate professor of the English language in the Kansas State Agricultural college.

"There are many men—and women too—who have a thorough knowledge of some subject," says Doctor MacArthur, "but who cannot get up in public and tell others about it.

"In my judgment there are few things more important than ability to express oneself with ease. Especially is this important to the college graduate, for he of all men, should have a message

to give the world, or to that part of it in which he finds himself. Yet many a capable and right thinking man is forced to remain in his seat at meetings where matters concerning the welfare of his community are being discussed, and to allow less competent men—and sometimes unscrupulous persons—to have their own way, all because of a lack of knowledge of public speaking."

WARRING NATIONS HAVE THEIR VALUES TWISTED

They Want Five Times Five to Make 35, Says Armenian Student—Tells Aims of Cosmopolitan Club

The nations engaged in the war have the idea that five times five are 35, according to Bagdasar K. Baghdigian, native Armenian and student in industrial journalism in the Kansas State Agricultural college, who addressed the Cosmopolitan club recently. A wrong estimate of values is the basis of the war, in the opinion of Mr. Baghdigian.

"For centuries," said Mr. Baghdigian, "we have been stultified by teachings of superiority and inferiority of race until the great havoc in Europe has shattered the self created pedestals upon which the so-called superior race was elevated and made us question the potency of the claims which give distinction to the different races.

"Who is responsible for the present plight in the countries where human beings are mowed down by cannon, and where every minute thousands of hearts are bereaved of dear ones; orphans are increased by tens of thousands and where the youth in their simplicity pray to heaven for the deliverance of the one whose presence alone can fill the joyous cup of life? This question is answered by an analogous case which I shall put in interrogatory form.

"What is the cause of the failure of the student in mathematics? Does any one doubt that it is the lack of knowledge concerning the working principles of that subject which leads the fellow into failure?

"Suppose that you were taught to believe that five times five equaled 35 and all along your life you followed this instruction in your dealing with others. You would be just as earnest as you would have been had you known the correct results. When you failed to receive 35 as the result of five times five you would resort to means that might restore to you the sum which alone satisfied your conception of value.

"This is just what the nations of Europe are doing. They are trying to regain the 35 as the result of five times five. Have not the nations been taught national supremacy at the expense of other people? Have they not been filled with thoughts of material achievements which can be won only by bloodshed? And yet in their zeal for safeguarding the so-called national interests they have failed, as a whole, to see the real greatness of a nation or a race in its beneficent influence on man.

"Men have boasted of their material progress. They have been justly proud of their intellectual attainments, but spiritual penury has chilled their homes and country in proportion to their inconsistent arguments concerning the relationship between people and nations. These arguments have brought division in the human race.

"These divided kingdoms with their omnipresent evils can be rectified only through a mutual understanding of things vital to human interests. The animal instincts in man can cease to operate only when we have hearts charitable enough to be tolerant toward the shortcomings of others and we will cease to be victims of barbarities only when in justice to ourselves as men we treat the other fellow as a gentleman or in our relationship with him we try to make of him a gentleman.

"Herein you find the aims and the ideals of the Cosmopolitan club. In view of modern consciousness we believe that we are perfectly consistent. The youth that saw material power now sees 'love perfect.'

The first of the inter-class basketball games will be played this afternoon in Nichols gymnasium.

SHOP GIRL AND DRESS

HOW TO LIVE AND DRESS WELL ON SIX DOLLARS A WEEK

This Problem Is Being Worked Out by Miss Emma Fecht—Questions of Interest to Factory Girl Are Discussed

How to live and dress well on a salary of \$6 a week is a problem that is being worked out for the girls in the factories and shops by Miss Emma Fecht, instructor in domestic art in the Kansas State Agricultural college.

"The girls of the factories and the shops have a great problem to face when trying to support themselves on a salary of \$6 a week," says Miss Fecht.

The girls of the large department stores are required to wear the regulation uniforms and yet must be neat and stylish. The dress for store wear is a black skirt, white shirtwaist, and high stock collar.

"Many stores require their girls to vary the uniforms—one day white shirtwaists, and the next black waists with white collars and cuffs. This frequent change in dress demands a greater number of waists than the girl would otherwise have to provide.

GIRLS OFTEN CRITICIZED

"We often criticize these girls for clothes which we think are too expensive for them to wear. These articles are often given them by the stores in cases of emergency. Sweaters are frequently given the girls who work in front of the entrances in the winter season. The store must keep up an appearance and the girls cannot afford to purchase the sweaters.

"Every saleswoman must have a black suit. These suits should be made of good material for they are worn continually and must stand frequent cleanings and pressings. These suits are for evening wear and suitable for church. A bright silk waist is worn on these occasions.

"The expense of entertainment falls on the girl. If she is escorted by a gentleman she must have semi-evening clothes, while if she goes with a group of girls she can wear her shirt waist suit.

"The girls of the stores are often better dressed than many high school girls. For the mothers of these school girls are sometimes poor choosers, or neglect to select the proper clothing for their daughters. The sales girl comes in contact with those who know how to choose and wear good clothes and cannot but learn what is correct.

SHOP GIRL MUST BE NEAT

"In the well ordered store the sales girl must wear neat shoes and gloves—old gloves and shoes are neat when mended and clean—clean shirtwaists, neat suits, and well appearing hats. She must also have clean hands and finger nails.

"In the cheaper stores girls wearing old fancy waists, cheap jewelry, low shoes and thin stockings, are seen. The stores catering to the cheaper trade do not require a regulation uniform.

"It is hard not to criticize these girls for their love for pretty clothes. The girls are surrounded with them and are ambitious to wear them."

Miss Fecht believes that the store is not only treading down the salesgirls but, on the other hand, is a great education because it requires them to be clean and neat and makes them use good judgment in choosing their clothing.

COLLEGE EXPERTS JUDGE 40 LIVE STOCK CONTESTS

Animal Husbandry Department Unable to Supply Demand for its Men

Since the beginning of the fair season in August the animal husbandry department of the agricultural college has furnished judges to 40 different places. These men spent 55 days in the actual work of judging. The demand has been so great that it has been impossible to supply judges to all who have requested them.

The rose is the most popular flower at the college greenhouse now. The display is well worth seeing.

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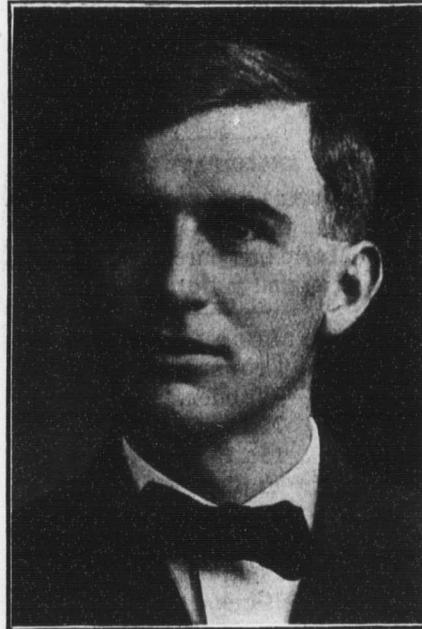
Number 12

TO RAISE MORE CORN

KANSAS CAN INCREASE YIELD, PROFESSOR CALL POINTS OUT

College Expert Tells Interstate Farmers' Congress of Work Done by Institution in Solving Important Agricultural Problem—Many Experiments

The average corn yield in Kansas for the last few years has been less than 20 bushels an acre. That this is not the maximum possibility for the state is shown by the fact that half a century ago the acre yield was double



PROF. L. E. CALL

what it is now. How to get better yields of corn—the most important cereal crop of Kansas—is one of the big farm problems being worked out by the Kansas State Agricultural college.

The adaptation of varieties, the breeding and selection of improved seed of the best varieties, systems of cropping and soil improvement, and the effect of continuous corn growing as compared with a rotation on the fertility of the soil—these are factors being studied by the college experts. The work of the institution on the subject was explained by L. E. Call, professor of agronomy, to the Interstate Farmers' congress at St. Joseph, Mo., yesterday.

"One of the most important factors influencing the yield of corn," said Professor Call, "is the variety grown and its adaptability to the soil type and to climatic conditions. In order to determine the adaptability of different varieties and strains of corn to different sections of Kansas, we have conducted for the past five years variety tests in co-operation with farmers in all parts of Kansas. In the past

made to conduct these tests on as many soil types as possible. From the results of this work the state has been divided into nine corn regions based upon climatic and soil conditions. It should be understood that the boundaries of these regions are not fixed lines but one region passes gradually into another.

"In the first three regions, which compose most of the eastern part of the state, soil conditions have been the chief factors considered in the separation. Region 1 represents the glaciated, or ice formed, soils of the state, region 2 the residual soils of southeastern Kansas derived chiefly from sandstone and shale, and region 3 the flint hills and rough limestone country which are largely devoted to pasture. In the region comprising the rest of the state, climatic conditions govern the corn crop.

DO NOT TRANSPORT SEED

"Because of the difference in climatic and soil conditions, different varieties of corn have been found to give the best results in the different regions. As a rule, it has not been found beneficial to transport seed from one region to another. Especially is this true when the seed is taken from the eastern to the western part of the state, or from rich to less fertile soil.

"Preparation of seedbed, method of planting and cultivation of corn are perhaps the most important factors within the control of the farmer that affect the yield of the crop. This is certainly the case if good seed of a well selected and adapted variety is planted.

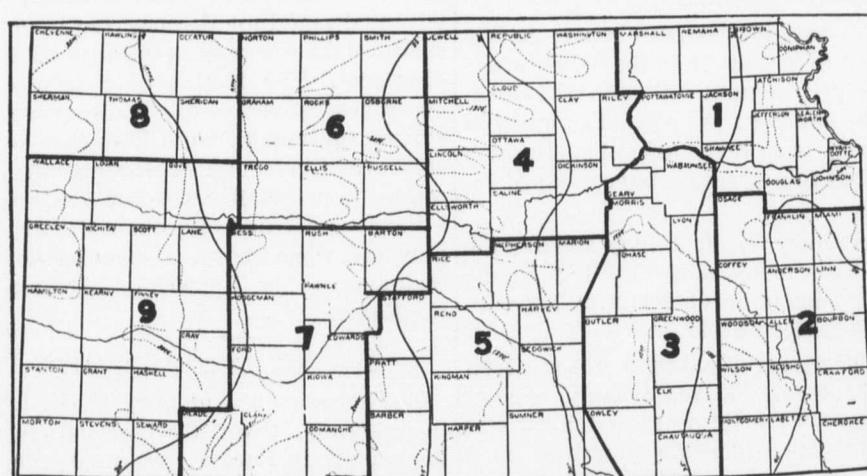
"A study has been made of the three common methods of planting—listing, surface planting, and surface planting with the disk furrow opener attachment to the surface planter.

"In an average of the six years, listed corn made slightly lower yields than either of the other two methods, the average yield being 52.4 bushels an acre, while surface planted corn produced an average yield of 53.6 bushels and corn planted with the disk furrow attachment to the corn planter produced an average yield of 54.5 bushels.

METHOD VARIES WITH SEASON

"In the cooler, wetter seasons the surface planted corn has produced best while in the drier and hotter seasons the corn planted with a lister has given best results. This has been long recognized by practical farmers and has been amply demonstrated many times by careful experimental work.

"Undoubtedly one of the principal causes for listed corn giving better results in dry seasons on many farms in eastern Kansas is that the stand is



CORN GROWING REGIONS OF KANSAS

season 152 variety tests were conducted in which were included 38 different varieties and strains of corn.

TESTS COVER WHOLE STATE

"Variety tests have been conducted in practically every important corn growing county in the state. Not only has the state been studied in this respect from the standpoint of climatic conditions, but an effort has been

(Concluded on Page Three)

A BIG FIELD FOR WOMEN

JOURNALISM OFFERS GREAT OPPORTUNITIES TO COLLEGE GIRLS

Mrs. Cora G. Lewis Tells Students of Inviting Chances in Kansas Newspaper Work—Urges High Ideals and Constructive Efforts

Journalism is one of the biggest and most appropriate fields for women, in the belief of Mrs. Cora G. Lewis, associate editor of the Kinsley Graphic and member of the state board of administration, who gave an attractive and stimulating address to the industrial journalism students of the Kansas State Agricultural college Tuesdays.

"A young woman who takes such a course as is given by this college can readily go out into Kansas and run a successful newspaper," said Mrs. Lewis. "She will find it a most remunerative field as well as one offering abundant opportunity for community service. There is a long list of Kansas women who have performed wonderful service to the state as owners of newspapers and as writers for papers. A goodly number of these have gone on to work in the other fields of literature."

Mrs. Lewis emphasized the highest ideals and practices in newspaper work. "Today's work today. That is what life should mean to everyone—to do the best day's work possible," said the speaker. "Reach out into life and each day do something that will lift your life up into a higher plane."

PRESS SHOULD ACT THE GENTLEMAN

The press should always maintain the breeding of a gentleman, Mrs. Lewis declared, for print scandal and gossip is just as much a breach of good breeding as to discuss it with your neighbors.

"There is no finer field offered for beginners in journalism," said Mrs. Lewis, "than Kansas country newspapers. The country paper should boost to build up the schools, the churches, the community, and the things that are valuable.

"I wish that you students might take with you from this campus plenty of 'pep.' Everything that is done has a mind behind it if it is to be of use, and nothing is more satisfactory than to live in a community and feel that you are a part of its best life—to feel that you lead along the line of spirit.

NEWSPAPER HAS MIGHTY POWER

"The newspaper has a wonderful power. What power? The power of the mightiest thing on the face of the earth. The word is a creative power. The word in black and white repeated over and over is limitless in its power. This makes you afraid ever to utter a word on a low plane in the columns of a newspaper. The country newspaper is a community voice, the voice of the people. The newspaper molds public opinion in a way that we can scarcely realize until we stop to think; and yet this power of words is dissipated if it sets for itself no aim, has no positive base, and has no ideals.

"You should believe in yourself and put yourself in everything that you do. It makes no difference what you do, there must be the standard of clean living, the standard of integrity to see a thing fairly and see it on all sides, to eliminate the thing that is hurtful even though the news is not quite so spicy."

PUBLICITY HAS HELPED KANSAS

Mrs. Lewis told what had been done for Kansas by publicity. She explained that by emphasis on big and important constructive activities the state of Kansas has been greatly benefited by the publicity it has received. She commended highly THE KANSAS INDUSTRIALIST, the Kansas State Collegian, and the publicity work of the college.

COEDS BREAK EVEN

The college won the Manhattan end of the dual debate with Kansas Wesleyan university last night, but lost at Salina. All the teams consisted of girls.

Farmers and their wives should have libraries which contain the things that most concern them in their everyday lives, according to Mrs. Lewis. "Every man who goes into a profession accumulates first a library," she said. "The farmer seems to be the only man willing to go into his life's work without a library." She spoke of the work the journalist may do toward raising the standards of farm life, and commended the training given by the department of industrial journalism.

The embryo journalists were advised by Mrs. Lewis to set definite standards, to use good diction, and to be clear and explicit. They were urged not to get on the fence but to come out and stand constructively for the things they believe in.

SOCIETY LOOKS FOR RECORD ATTENDANCE

Animal Production Experts from Every Part of United States Will Attend Meeting at College

The eighth session of the American Society of Animal Production to be held at the Kansas State Agricultural college December 22 and 23 is expected to attract the largest attendance in the history of the organization.

"We are going to have representatives from every state east of the Mississippi and north of the Ohio river," said W. A. Cochel, professor of animal husbandry in the Kansas State Agricultural college. Experts from Minnesota, Iowa, Missouri, Arkansas, Louisiana, Texas, Oklahoma, Nebraska, Montana, Wyoming, Colorado, and Utah have also signified their intention of being present. Among those in attendance will be Dr. H. P. Armsby of Pennsylvania State college, considered an authority upon the subject of animal nutrition, and Dr. E. B. Forbes of Wooster, Ohio, who has done more experimental work in regard to the nutrition of animals than any other man."

BOOK MAKING IN KANSAS IS SHOWN IN EXHIBITS

Prof. J. W. Searson Receives Interesting Material from State Printing Plant

Book making in Kansas is illustrated in exhibits received by J. W. Searson, professor of the English language in the agricultural college, through the courtesy of W. R. Smith, state printer, and J. D. Rickman, assistant, formerly superintendent of printing here.

The exhibits, which Mr. Searson will use in lectures before college classes, show the progress of a textbook from the manuscript to the finished product, including composition, proof reading, presswork, stitching, assembling, and binding. A further interesting feature of the display is the fact that the book used is "Agriculture," prepared by members of the college faculty for the Kansas public schools.

MILLER RESIGNS TO DO RESEARCH WORK IN EAST

Chemistry Instructor Accepts Position in University of Pittsburgh

R. W. Miller, instructor in chemistry in the agricultural college, has resigned his position here to become research assistant to Raymond F. Bacon, associate director of the Mellon Institute for Industrial Research, University of Pittsburgh. He will leave at once. The position offers unusual opportunities in the field of industrial chemistry.

DEGREES TO 43 SENIORS

YOUNG WOMEN WILL FORM MAJORITY OF WINTER CLASS

Judge Charles A. Smart to Deliver Commencement Address on "The Call of the Hour"—Exercises Will Be Held Wednesday

Probably 43 students will receive degrees at the winter graduation exercises Wednesday, the last day before vacation. Of those who expect to get diplomas 26 are young women, who will receive the degree of bachelor of science in home economics.

Charles A. Smart of Ottawa, judge of the fourth judicial district, will deliver the commencement address. His subject will be "The Call of the Hour."

The exercises will be held in the college auditorium, beginning at 9:30 o'clock. Dr. Henry Jackson Waters, president of the college, will preside and will confer the degrees. The college orchestra will give several selections. Miss Eugenia Fairman, instructor in music, will give a piano solo. Fred Korsmeier, a student in the college, will play a violin solo. The Rev. William I. Jones, student pastor of the Congregational church, will pronounce the invocation and the benediction.

The students who will probably make up the graduation class, together with the degrees which they wish to take, are as follows:

HERE IS TENTATIVE LIST

Bachelor of science in agriculture—Glen Harry Anderson, Lincoln; John Jasper Bayles, Manhattan; Lester Jay Bell, Wellsville; Harold Clay Ewers, Independence; Robert Everett Freeto, Cheney; Charles William Gartrell, Manhattan; Herbert Henley Haymaker, Wichita; John Howard Loomis, Colby; Ralph Waldo Taylor, Sedgwick; Wilmer Homer Wilson, Osage City.

Doctor of veterinary medicine—Richard Thomas Wilson, Manhattan.

Bachelor of science in civil engineering—George Arthur Hopp, Manhattan.

Bachelor of science in architecture—Alvin Theodore Coith, Manhattan; Harold Lester Hurt, Manhattan.

Bachelor of science in home economics—Lulu May Albers, Hargrave; Ruth Arbuthnot, Belleville; Grace Adeline Barker, Newton; Florence Beatrice Caton, Foxboro, Mass.; Mary Virginia Dodd, Langdon; Valeda Edith Downing, Stafford; Emma Evaline Evans, Liberal; Marion Rosina Fowler, Brookville; Carrie Belle Gardner, Newton; Mamie Blanche Gorrell, Wakeeney; Louise Jacobs Hayes, Manhattan; Ida Jane Kingan, Topeka; Esther Grace Lyon, Nickerson. Pearle Irene McHenry, Paola; Sadie Mandie Marvin, Emporia; Ella Mae Miltner, Wichita; Helen Munger, Carbondale; Sara Jane Patton, Hiawatha; Evelyn Marie Potter, Barnes; Clara Louise Robbins, Colony; Anna Winifred Searl, Morland; Verma Treadaway, Newton; Louise Chester Walbridge, Manhattan; Vera Glendolyn Warren, Chanute; Clara Willis, Horton; Grace Willits, Topeka.

Bachelor of science—James Dennison Colt, Manhattan; Marion Greenleaf Kirkpatrick, Manhattan; Leird Astor Richards, Manhattan.

POTTER COMMENDS NEW DEGREES TO GRADUATES

Calls Attention of Practicing Engineers to Professional Honors

A. A. Potter, dean of engineering in the agricultural college, has written to all engineering graduates of the institution calling their attention to the possibility of their receiving the professional degrees now offered. He also urges support for the K. S. A. C. Engineer, the quarterly publication of the division.

THE KANSAS INDUSTRIALIST

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H. J. WATERS, President.....Editor-in-Chief
N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

Except for contributions from officers of the college and members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism. The mechanical work is done by the department of printing. Of these departments Prof. N. A. Crawford is head.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

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SATURDAY, DECEMBER 11, 1915

Good intentions and duty get the blame for the most blunders.

Does fame kill a man, or is there some other reason why nearly all the famous men are dead?

A new method of ushering in the new year in Iowa will be employed next time. "Dry" workers will hold jollifications celebrating the entrance of prohibition.

Theodore Roosevelt visited an art exhibit the other day and decided that the best work was one that had not been given a prize by the judges, whose only qualification was that they were artists.

A MODERN STEP

A fine modern step has been taken in agriculture by the faculty of the Milwaukee County School of Agriculture and Domestic Economy, of which several alumni of the Kansas State Agricultural college are members.

The new plan comprises a city course in agriculture to be given at two of the public libraries in the city of Milwaukee.

These courses, it is pointed out, are planned to meet the demands of three classes of city residents—those who wish to improve their home surroundings and take advantage of such vacant ground as may be available for backyard gardening, poultry raising, and similar activities; those who contemplate leaving the city and establishing themselves on farms; and those Milwaukee residents who own farms over which they have partial supervision but who have a very limited knowledge of agriculture. The course is thus planned to improve agriculture in its regular environment—the country—to eliminate some of the difficulties which townspeople find upon moving to the farm, and to beautify and make more useful the vacant land which is always found in even the largest cities. Such practical subjects will be treated as soils, farm crops, fruit, truck gardening, poultry, bees, and dairying.

It is safe to predict that many persons not directly interested in agriculture or gardening will attend these lectures simply for the purpose of broadening their general knowledge. The series thus not only will give vocational and avocational training but, at the same time, will create a closer bond of sympathy and understanding between the city and the country. This course in Milwaukee affords an example which other cities may well imitate.

MUSIC FOR THE PEOPLE

The concert given by the department of music Monday night showed in a magnificent way what can be accomplished in bringing the music to the people. Those who heard the brilliant work of the great chorus, composed chiefly of young men and women not professional musicians, could not fail to be impressed with the vast possibilities of music as a community activity.

The vision which the board of administration and Professor Wesbrook have of a state filled with the human-

izing and refining power of music, will in due time be realized. It cannot help being realized with the enormous interest which has been inspired in the whole student body of the college. These young men and young women will go out to their homes and reproduce, in some manner at least, what has been done for them here at this institution.

PREPARING FOR BIG AFFAIRS

At Emporia last week, the editors of some 30 high school papers of Kansas gathered for their annual meeting. It was easy to see that these young men and women were representative students of their schools. They had good appearance and good address, they knew something about what was going on in the world, and they had some modern ideals of journalism that would be profitable to many a professional newspaper man. They discussed such problems as stock, makeup, style, and cost with as much practical interest as a gathering of trained journalists.

These students are getting fundamental experience in the best outside activity that can be conducted in connection with a school. Any institution that could maintain a paper and does not is overlooking one of the biggest services that it could perform. The boys and girls who are now editing and managing high school papers will, in a few years, be the men and women in charge of big affairs in the professional and business worlds.

INSURANCE FOR CROPS

Farmers of the northern states who have provided hail and live stock insurance for themselves through mutual organizations should not overlook the insurance campaign now being conducted in the south. This campaign is intended to insure the farmer of the south against general adversity, and the only expenditures required for it are on seed and fertilizer.

The insurance, which is in the form of rules for farm practices, follows:

"1. A home garden for every family to provide vegetables as near as possible the year round and additional ground for a plot of potatoes, either Irish or sweet, or both. Raise sorghum or cane enough for the sirup of the family.

"2. Produce the corn necessary to support the family and the live stock on the farm for a year with absolute certainty.

"3. Produce the necessary oats or other small grain to supplement the corn as food and for winter grazing.

"4. Produce enough hay and forage to supply all of your live stock for a year. In doing so don't forget the legumes, because they produce hay and also enrich the soil.

"5. Produce enough chickens and hogs to supply the meat for the family. Increase your other live stock gradually but insure your meat supply with these."

While this insurance is being urged for farmers of the south, who are believed to be tending toward the single crop idea again owing to high priced cotton, it would be well for many producers of the northern states to avail themselves of it. There are too many farms in the middle west without adequate home gardens and too many which fail to produce the feed they need from year to year. As for sorghum or cane for sirup, the northern farmer might omit this and produce more corn so that he will have a surplus available for corn sirup makers or for marketing through live stock so that the proceeds may cover the cost of maple sirup from New England.

While the middle west is more advanced agriculturally than the south, it can profit from the lessons now being carried into the home of the planters by federal, state, county and other teachers who have undertaken the herculean task of reforming a vast farming territory.—Daily Drovers Telegram.

DIET AND DISEASE

Pellagra, it is now affirmed, is a disease resulting from an improper diet. Those who suffer from it have not taken into the system enough protein,

which includes all compounds containing nitrogen, such as eggs, milk, meat, wheat and other cereals, especially dried peas and beans. The function of this element in the diet is to form the organic basis of bone, and other tissue and to serve in the body as fuel producing energy and sometimes fat. The victims of pellagra, it is found, generally because of poverty, omitted these articles of diet. On the other hand, healthy persons deprived of such food, have contracted the disease. It is an interesting fact, also, that persons in an incipient stage of consumption are often cured by the

are more likely to find it than those who are always waiting or working in fear."

On the other hand, too much belief in one's good luck is likely to result in paralysis of effort and initiative, the believer futilely thinking that there is no need for striving since he will be successful anyhow. The same result, it goes without saying, flows from belief in omens of ill luck, which paralyze effort by suggesting the idea that no matter how one may labor he can never hope for good fortune.

Belief in charms, consequently, is a pretty dangerous thing. There are

Noel

G. H. R. Dabbs

A little while and we shall know

Where all our vanish'd children go,

And e'en, perchance, may recognize

Their old-remember'd, astral eyes!

(O Noel, Noel! comest thou

From them to us with kiss and vow?)

A little while and we shall hear

The Child's soft footfall drawing near,

The Child who our dead children takes,

In his safe keeping for our sakes,

And they, those children we loved most

Will watch for him and think him lost,

And yearn for his return with eyes

That search the deeps of Paradise.

(O Noel, Noel! in thy rest

May all our vanish'd ones be blest!)

CHRISTMAS WONDERS

William Morris

Folk say, a wizard to a northern king
At Christmastide such wondrous
things did show,
That through one window men beheld
the spring,
And through another saw the summer
glow,
And through a third the fruited vines
a-row,
While still, unheard, but in its wonted
way,
Piped the drear wind of that December
day.

SUNFLOWERS

If you are sincerely opposed to illusions, ask some bright child whether she really thinks you are pretty.

Don't be too sure of your prominence till you've been asked to sign a tobacco testimonial. That's the final proof.

Kansas City saloons will not be allowed this year to give away anything but jags. These will be furnished free with the requisite number of drinks, as usual.

ANTICIPATION

As Christmas day comes on its way
Beneath the greyish sky,
I feel Marie has purchased me
A green and yellow tie.

FAMOUS HEADS

Crowned.

Wooden.

Mutton.

Pin.

Figure.

Swell.

Bone.

Pudd'n.

Block.

—Wichita Eagle.

THE DRAMA AND DECENCY

If William A. Brady is correctly quoted, his statement that the public will not patronize the best plays and that it does not pay to be decent will surprise those who are familiar with conditions in our theaters, and particularly with the activities of this theatrical manager. We were under the impression that Mrs. Brady (Grace George) was doing quite well with her revival of such plays as "The New York Idea," and the Gilbert and Sullivan revivals, with DeWolf Hopper, Robert Mantell in Shakespearean repertoire, and other "decent" attractions put out under Mr. Brady's management during past seasons are commonly supposed to have "paid."

It is sincerely hoped that this manager has been misquoted, or that he is suffering from a temporary spell of pessimism. The public does not always support the best, but the inference that only the indecent theatrical attraction pays, is not to be taken seriously. The cheap and sensational flourishes for a while on Broadway, and there are conspicuous examples of managers who have made fortunes out of the exploitation of this form of "entertainment," but the demand for decency far overshadows the response to the other kind of appeal. The lasting successes of every season prove this to be true.

The earliest sown wheats have suffered slightly from the attacks of the Hessian fly, but late varieties have escaped injury. Secretary Graham gives some of the incidents of his summer's trip to the mountains in an entertaining letter to the American Field.

A specimen of asbestos was received by Professor Failyer recently, accompanied by the information that it was found in considerable quantities on a farm near Leonardville. This is supposed to be the only asbestos bed in the state, or, for that matter, in the west outside the mountainous districts. The farm department has received from Professor Shelton of the agricultural department of Queensland, Australia, an order for 20 bushels of Zimmerman wheat. Having disposed of all the wheat, Professor Georgeson could not fill the order, but turned it over to Mr. Marlatt of College Hill, who starts the wheat on its two months' voyage this week.

ADDING TO EARTH'S BEAUTY

The gorgeous red poppies which, in their season, cover the railroad embankments in Europe, are a surprise and a joy to the tourists.

Many persons have advocated the scattering of wild flower seeds in the United States, but few have done so. A pioneer in the cause is Prof. W. S. Monroe, teacher in an eastern normal school.

Monroe scatters flower seeds broadcast in the woods and along the roads, and he throws them from train windows tied up in tissue paper and weighted with pebbles.

Whoever plants a flower drives out a weed, it is said.—Wichita Beacon.

AMONG THE ALUMNI

C. H. Scholer, '14, is making a survey of the city of Tonganoxie.

Miss Mabel Glenn, '14, is a successful teacher of home economics in Burlington, Kan.

Elsmere Walters, '13, an architect of Atchison, spent part of his vacation visiting his parents, Doctor and Mrs. Walters.

Alvin J. Reed, '10, is enjoying his work in the dairy division of the North Carolina College of Agriculture and Mechanic Arts, at Raleigh. He has recently built a house.

R. F. Hagans, '15, reports a very satisfactory season on the farm near Utica, where he is working with his father. They are giving special attention to live stock.

Announcement has been made of the engagement of Miss Velora Fry, '15, of Manhattan and Mr. Merrill L. Gould, '15, of Jamestown. They will be married December 28.

M. G. Smith, '08, is still a veterinary inspector for the federal bureau of animal industry. He is now stationed at Suffolk, Va., where he has charge of cattle tick eradication in three counties.

C. O. Johnson, '14, and C. W. Shaver, '15, who are practicing architects of Clay Center, sent a set of plans for a brick veneer residence to the architectural department to be used in instruction work in the college.

W. F. Turner, '11, who has been located at Beltsville, Md., will leave shortly for Amherst, Mass., where he is to become extension instructor in animal husbandry in the Massachusetts Agricultural college. Mrs. Turner was Miss Lida Stoddard, '12.

R. C. Thompson, '08, has taken a two years' leave of absence from the chemistry department of the University of Arkansas, and is pursuing graduate work in the University of Chicago and in Rush Medical college. His address is 6047 Ellis Avenue, Chicago.

Alexander T. Bodle, '11, writes to Dr. J. D. Walters, professor of architecture, from Meade that the boys of the high school of that town are going to build a manual training school building of concrete and that he would like assistance from the architectural department, with plans and specifications for the structure.

MARRIAGES

SMITH-ROMICK

Miss Phoebe J. Smith, '97, and Mr. Winfield S. Romick were married August 24 at San Bernardino, Cal. Mr. and Mrs. Romick are at home near Lordsburg, Cal., where Mr. Romick is engaged in extensive orange growing.

PENCE-CURRY

Miss Minnie Beryl Pence, '14, and Mr. William R. Curry, '14, were married at the home of the bride's parents, Mr. and Mrs. Charles E. Pence, at Hutchinson Thanksgiving evening, November 25. They will be at home after December 1 at Lewis.

BEALL-SAMSON

Miss Lucile Beall, '15, of San Marcos, Tex., and Mr. Roy D. Samson of Denver, Colo., were married December 1 at the home of Mr. and Mrs. J. C. Scott in Junction City. Mrs. Samson taught in the Junction City high school this year. She is a member of Pi Beta Phi. Mr. Samson is an attorney in the federal department of justice, with headquarters at Denver, where he and Mrs. Samson will make their home.

REDDEN-WHITCOMB

Miss Enid Alzine Redden, '13, of Manhattan and Mr. George Whitcomb of Cedar Point were married at the home of the bride's parents, Mr. and Mrs. Warren Redden, Wednesday evening, December 1. The Rev. Mr.

Lott of Roxbury, a friend of the bride's family, performed the ceremony. Mrs. Whitcomb was graduated in home economics in 1913 and was prominent in the Ionic Literary society. Since graduation she was in the college library. Mr. Whitcomb is a former student of the college. Mr. and Mrs. Whitcomb will be at home after the first of the year on their farm near Cedar Point.

ALUMNI TO LECTURE

Three alumni of the Kansas State Agricultural college are on the program of the farm course of the Milwaukee County School of Agriculture and Domestic Economy at Wauwatosa, Wis., next week. C. D. Adams, '95, is to speak on "Fresh Air Poultry Houses;" I. A. Moorhead, '12, on "Humus and Its Relation to Soil Fertility;" and C. V. Holsinger, '95, on "Should Milwaukee County Grow More Fruit?"

Mr. Holsinger and Mr. Adams will also deliver a number of lectures in a series to be given by the faculty of the county school at the Milwaukee city libraries. These lectures are intended to give city men and women insight into agricultural processes. These are Mr. Holsinger's subjects: "Planning a Backyard Garden," "Hotbed Construction and Management," "Some Vegetables Worth While," "Flowers and Shrubs for the Home Grounds," "Suggestions on the Growing of Strawberries," "Bush Fruits," "Some Common Pests and Their Control," and "Pruning and Cultural Methods in the Production of Good Fruit." Mr. Adams will speak on the following topics: "The Helpful Hen," "Best Results in Poultry Feeding," "Choosing the Poultry Breed," "The Life of the Honey Bee," "City and Country Bee Keeping," "Back Lot Poultry Keeping," "Systems of Poultry Keeping," and "The Hatching and Rearing of Chicks."

ADVISORY BOARD MEETS

The advisory board of the Alumni association of the college met here this week to investigate the needs of the institution.

The members consulted with Dr. H. J. Waters, president of the college, with the board of administration, and with the deans.

The board is composed of H. W. Avery, '91, of Wakefield, chairman, who is a successful farmer and live stock raiser; George C. Wheeler, '95, editor of the Kansas Farmer; Mrs. Wilma Cross Rhodes, '04, president of the Good Government league of Topeka; J. W. Berry, '83, of Jewell City, farmer and stock raiser and president of the Jewell county telephone company; Miss Frances L. Brown, '09, director of home economics in the extension division of the college.

The purpose of the meeting of the board was to obtain information looking toward legislation for the benefit of the institution at the next session of the state legislature. The Alumni association of the college is working with the alumni associations of the other state educational institutions to obtain a mill tax, making possible more definite plans on the part of the board of administration and the faculty.

MANHATTAN PEOPLE WILL JOIN IN CHRISTMAS SONG

Community Event to be Held in Presbyterian Church Wednesday Evening

The second community "sing" in Manhattan will be held Wednesday in the Presbyterian church. Songs appropriate to Christmas will be used. The children will gather for singing at seven o'clock, while the older people will have their entertainment at 8:30.

J. W. Searson, professor of the English language in the college, will preside. Arthur E. Wesbrook, professor of music, will lead the singing, and R. H. Brown, assistant professor, will play the organ.

The "sing" is under the auspices of the Manhattan Christian brotherhood, of which F. C. Winship is secretary. The same organization conducted the highly successful community songfest at Thanksgiving time.

RUST WORSE THAN WEAR

WEATHER DAMAGES MUCH FARM MACHINERY IN KANSAS

Proper Protection Is Matter of Business as Much as Caring for Horses and Cattle, Says William H. Sanders—Keep Equipment Well Painted

That more machinery rusts away than wears out on the average Kansas farm where shelter for machinery is not given due consideration, is the assertion of William H. Sanders, assistant in farm motors in the Kansas State Agricultural college.

"If properly sheltered, the uncomplaining farm machine will more than repay its owner for his extra care," says Mr. Sanders, "and if you want to be classed with the thrifty, farsighted farmers who are realizing the greatest returns from their labor, protect your machinery.

"It is a matter of business and economy to protect your machinery from the weather as you protect your horses and cattle. Machinery, like animals, cannot live long if forced to withstand the ravages of heat, cold, wind, and rain. If you house your windmill pump, it is not nearly so liable to freeze up and burst in the winter and if anything should happen to it in zero weather, you will find it a much more comfortable job to make the necessary repairs in a house than out in the cold. Furthermore, such an engine will last twice as long when under cover and free from the corruption of rust and the wearing influence of dust."

WOODWORK IS MORE SUSCEPTIBLE

"Woodwork suffers more from exposure than does iron," says this expert, "because wood will dry rot under the paint, starting at a place where the paint has been scratched off. While there may be no external evidence of weakness, yet, when time is most valuable, failure of the rotting part will often cause the farmer to suffer costly delays and equally costly repair bills.

"If your machinery is under shelter there is always an incentive to overhaul it and keep it in good shape at odd times, whereas a machine left out in the fence corner to be covered with snow probably gets little attention.

"It is desirable to have a large enough shed for housing machinery so that there is some open space under cover where a machine may be overhauled. If it is not possible to have housing facilities of this character, it may be advisable to dismount or take apart some of the bulkier machines that they may be stored in the small space available.

"After repairs have been made, the judicious application of good paint on well cleaned surfaces will put machinery and tools into practically as good condition as they were when new. But the paint must be made of the best pigments and genuine linseed oil, and the surfaces should be well cleaned, for it is well to remember that paint will not adhere to rusty iron or greasy or oily materials of any kind."

TO RAISE MORE CORN

(Concluded from Page One)

ferences secured in listing and surface planting.

The difference in rate of early growth is also important. The roots of the plants, while small, are in cooler soil on the listed ground and also occupy soil containing less available plant food than plants of the same age on surface planted ground; consequently they grow more slowly and are apparently more hardy and more drought resistant than plants that make a faster growth during the early period of their life.

WHAT CULTIVATION ACCOMPLISHES

"Three objects are expected to be accomplished by cultivating corn: first, the destruction of weeds; second, the conservation of moisture; and third, the liberation of plant food from the soil. There is no question that thorough cultivation accomplishes all three of these objects, but whether the conservation of moisture and the lib-

eration of plant food are the result of stirring the soil or simply result from the fact that the weeds are destroyed by cultivation is a disputed question. That the question is of practical importance is evident. If the elimination of weeds is the principal result accomplished by cultivation, and moisture and plant food are saved because the weeds are killed, there is no object in cultivating a field of corn in a dry season after the weeds in the field have been destroyed.

"It appears from the results of these two years' work that the destruction of weeds is by far the most important result accomplished by cultivation and that when corn is planted on a well prepared seedbed and is cultivated enough to kill the weeds, any additional cultivation will be injurious rather than beneficial to the crop.

"The injury comes from the pruning of the small feeding roots that fill the surface of the soil. If these roots are not destroyed by cultivation they secure both moisture and plant food from the most fertile portion of the soil. Therefore, in a well prepared seedbed the best method of cultivation is the one that destroys the weeds most thoroughly and injures the corn roots least. A rotation of crops that keeps weeds under control, thorough preparation of the ground in advance of planting, and the use of the smoothing harrow that destroys the small weeds as they are germinating before the corn is large enough to work, will be the most effective way of fighting weeds and will greatly reduce the cost of cultivation."

GIVESrecognition to CLOSE OF GREAT FAIR

College Assembly Considers Contribution Made by Panama-Pacific International Exposition

Dignified and appropriate recognition to the close of the Panama-Pacific International exposition was given at the student assembly last Saturday. In the absence of President H. J. Waters, Dean J. T. Willard presided and spoke briefly but effectively concerning the things for which the exposition stood.

"For nearly a year," said Doctor Willard, "the Panama-Pacific International exposition at San Francisco has been an imposing demonstration of the beneficent results attained by art, science and industry under the environment of a World of Peace. The outbreak of the Great war marred to a considerable extent the completeness of the enterprise, but in spite of this, it is generally conceded that the exposition has been the greatest ever held, in magnitude, in beauty of architectural form and coloring, and in educational value. At midnight it will be officially closed, and today a fitting, final program is in progress. The most striking feature of the day's ceremonies is an international toast typifying the world peace, world services, and world patriotism for which the exposition has stood sponsor during the past year of turmoil and war. This international sentiment has been prepared by President Woodrow Wilson.

"We have been asked to join in this toast and also to send a sentiment that expresses our idea of what the Panama-Pacific International exposition has accomplished or will accomplish for human betterment and world progress.

"President Waters in compliance with this request has sent the following:

"The Panama-Pacific International exposition has made its greatest contribution in giving the world a balanced vision of art and industry. Every branch of science and every department of industry respond to the thrill of new life. Farm, and market, and factory feel the impulse toward better things. New meanings of education and of civic and social service are clear to the world's leaders. The exposition has democratized and socialized the refinements of life."

Students in the college shops are doing the necessary casting for the heat and power department.

WITH CHRISTMAS SPIRIT

MUSIC DEPARTMENT ENTERTAINS WITH BRILLIANT CONCERT

Chorus in Size and Quality Proves Unique in History of Institution—The MacDermids Please Big Audience with Artistic Work

The true Christmas spirit prevailed throughout the concert given Monday by the department of music in the Kansas State Agricultural college as the first annual Christmas gift of the department to the public. The climax of a wonderful and distinctive program came when the audience of 2,000, in deference to a long observed custom, stood up as the Choral society of several hundred voices sang the Hallelujah chorus from Handel's "Messiah."

The chorus was of a size and quality new in the history of the institution. Power, unity, rhythm, response and abandon were the things chiefly in evidence as the result of ten weeks of careful training on the part of A. E. Wesbrook, head of the department of music, who directed the performance. Never before has the vocal talent of the student body been given such a large opportunity for expression and never before have the students and faculty realized the abundance of such talent.

IS RECEIVED WITH ENTHUSIASM

Probably the most enthusiastically received number on the program was the "Greeting to Spring." The beautiful introduction by the assisting orchestra was favorably received by the audience. The large chorus showed itself to be anything but unwieldy in this song and sang with lightness and precision, responding readily to the many changes of movement.

"The Alps" was the most artistic selection of the evening and the singers adjusted themselves admirably to the different moods of the piece. Each section of the chorus was alert and handled its part faultlessly.

SHOWS VITALITY AND BRILLIANT

The chorus was ably assisted by Sibyl Sammis-MacDermid, dramatic soprano, and James G. MacDermid, composer-accompanist, of Chicago. Mrs. MacDermid sang her solos with authority and precision. She is somewhat of an actress and sings with intensity and feeling. One of the most agreeable things about her singing is her clear enunciation—every word may be heard distinctly. She throws her whole self into everything she presents and has the ability of being wonderfully vital. Although not particularly smooth in the lower tones, she approaches the brilliant in the higher notes. Her attractive personality does a great deal in winning an audience.

Mrs. MacDermid rendered three groups of songs, each time being called back for an encore. "One Fine Day" from "Madame Butterfly" she did in good style and with much power. She sang as an encore "From the Land of the Sky-blue Water," by Cadman, in a particularly pleasing manner.

SINGS MACDERMID'S COMPOSITIONS

The third group of songs consisted of compositions of her husband, and they served to make the program attractively unique. Here were an American singer, an American composer, American songs, and an American spirit. They drew the lion's share of the applause.

The Choral society was accompanied by the college orchestra, under the direction of R. H. Brown, assistant professor of music, with Miss Patricia Abernethy at the piano.

"The concert Monday evening was a success," says Professor Wesbrook. "In giving such a concert, I feel that we have taken a decided step toward better and more artistic musical performances. It takes time for so large a chorus to be able to present things artistically but the loyalty and enthusiasm of the members make such a possibility not very remote. The splendid spirit of co-operation on the part of everyone concerned made the production possible. We are hoping in the future to have many artists such as the MacDermids with us."

YOU DON'T NEED TO DOSE FOWLS TO KEEP THEM WELL

YOU'D BETTER SPEND YOUR MONEY IN IMPROVING POULTRY, PREMISES, OR REGULAR RATIONS, SAYS EXPERIMENT STATION EXPERT—SUGGESTIONS ON FEEDING

"To feed medicine to a lively, industrious, healthy fowl that is apparently in the pink of condition is as reasonable as to begin dosing a robust workman who is turning out the maximum amount of work expected," says R. H. Needham, associate in stock remedy analysis, agricultural experiment station. "Yet," Mr. Needham points out, "an idea prevails in this state that in order to keep poultry profitably, or with any degree of satisfaction, one must feed some kind of tonic in the way of a poultry food.

"This tradition or practice does not take into account, as a rule, the physical condition of the fowls nor the added cost of maintaining the flock. Moreover, fowls do not take kindly to medicines and will not eat such material unless mixed with feed or placed in drinking water.

"The average composition of the poultry tonics found on sale in Kansas shows a high percentage of base or filler consisting of grain screenings, shorts, oyster shell, Venetian red, charcoal, together with meat scrap, blood meal, and similar ingredients. The quantities of these materials range variously from 50 to 90 per cent of the whole compound. To these bases are added various quantities of certain drugs such as nux vomica, sulphur, saltpeter, gentian, sodium hyposulphite, and sodium sulphate, the added drugs being in small proportion to the total mixture.

MANY ARE SHORT OF MEDICINE

"Such materials as bone meal, grit, ground oyster shells, and charcoal are really not medicines any more than are tankage, meat scrap, turnip tops, and cabbage. These materials are good in a sense and are indispensable in part to the diet of poultry. Yet many of the so-called poultry remedies on the market are made up, to a large extent as to weight, of charcoal, bone meal, or oyster shells, while the real medicinal substance that each fowl might get from the mixture would be entirely too small to be of any medicinal value. There are exceptions, a number of remedies on the market being prepared in a more scientific manner.

"The ardent advocates of poultry remedies declare that one can hope to keep up the maximum growth and productiveness only by constant stimulation and that when the flock is doing best is the time to look for a slump in production, a retardation of growth, or the appearance of some dread malady. Accordingly, continued dosing is absolutely necessary and a sure preventive of loss or disease.

"We do not view the poultry business or poultry remedies in this light. Experience teaches that poultry remedies utterly fail to eradicate certain physical conditions which all too frequently are overlooked by the poultry keepers.

"Vermin infested fowls, filthy and insanitary quarters, insufficient or unbalanced rations, lack of exercise, are some of the conditions upon which medicines have very little effect. Feeding poultry foods to keep chickens healthy has its place in poultry keeping, but the use of these foods should be governed by common sense and reason.

CARE OFTEN PREVENTS DISEASE

"Abnormal conditions such as disease demand in the first place care, then medicine and treatment. Often, with proper care, disease would not occur.

"Intelligent observation of fowls and more complete knowledge of poultry diseases and ailments will enable one to exercise proper judgment in instances where the fowls are not doing as they should. To be able to detect the first signs of diarrhoea or roup requires keen observation and is

an essential to good poultry keeping, but it is just as important to be able to distinguish the effects of vermin and malnutrition. All poultry food manufacturers bear with strong emphasis on care and proper feeding if one wishes to obtain results from feeding their particular brands.

"The cost of keeping a fowl that runs at large need be of little concern to the owner so long as the range affords food material of sufficient variety. The bird will make its own selection and will include in its bill of fare, at little cost to the owner, such materials and herbs as are good for its constitution. Fowls confined in pens having no range, require more feed, perhaps, all of which has to be placed before them.

TONIC ADDS MUCH TO COST

"The average annual cost of keeping a hen depends much upon the variety of feed, ranging from \$1.00 to \$1.25 a year for pen feeding. Add to this the cost of a manufactured poultry food or tonic retailing for, say, 25 cents a package and the weight of the contents averaging one and one-half pounds. One such package will feed 12 hens about 24 days. To feed every day during the year would require 15 packages costing \$3.75. Charge 12 hens with this account and we have an average added expense of 31 cents each. This expense may be slightly lowered by purchasing the remedy in large quantities. Following the directions for feeding the remedy increases the annual cost of keeping each fowl from 25 to 30 per cent.

"If the net profits of the flock will stand the added expense, no money will be lost. Records of poultry keeping show that it is hardly possible to add such a large increase to the cost of keeping and expect additional profit.

"The instructions for using these remedies prescribe cracked wheat, shelled corn, linseed meal, beef scrap, vegetables, grit, and other food. It is plain that the balanced ration is the important thing and not the poultry remedy.

"Instead of investing continually in medicinal preparations to feed healthy birds which show no indications whatever of being out of condition, it would be far better and more profitable in the end that one use the extra dollars to improve the poultry, the premises, or the daily rations. Only the sick need treatment and medicine, and why create a sick account in good health?"

HOLTON TO SPEAK BEFORE TEACHERS OF EDUCATION

Will Tell How to Train Instructors in Vocational Subjects

Edwin L. Holton, professor of education in the Kansas State Agricultural college, will be one of the principal speakers at the fourth annual conference of the Western Association of College Teachers of Education. The organization will meet in Omaha, Nebr., December 28 and 29. Mr. Holton will speak on the subject, "Professional Training of Teachers of Vocational Subjects in Intermediate and Secondary Schools."

CREAMERYMEN AND LOCAL EXPERT WILL CO-OPERATE

Theodore Macklin Plans Investigation of Marketing of Kansas Butter

The Kansas Creamerymen's association has by unanimous vote agreed to co-operate with Theodore Macklin, instructor in rural economics in the agricultural college, in study of the marketing of butter in this state. Mr. Macklin is an expert in economic problems relating to agriculture, and is carrying on investigations which are expected to prove of great benefit to Kansas farming and other industrial life.

BUY THINGS YOU NEED

DON'T PURCHASE USELESS KITCHEN UTENSILS, SAYS EXPERT

Some Seek Quantity Instead of Quality—Articles Should Be Necessary, Efficient, Easy to Operate, and Economical—Kind of Material Important

Kansas housewives are warned against reckless and indiscriminate buying of kitchen equipment by Miss Louise Caldwell, lecturer on home economics in the division of extension, Kansas State Agricultural college.

"There is much said these days about equipment for the kitchen commensurate with that for farm, office, and factory," says Miss Caldwell, "but acquiring quantity rather than quality is as much an error in the kitchen as elsewhere. The choice of even small equipment is a matter that demands time and thought if one expects to get returns for money and effort expended.

"Before adding a new utensil to our stock it is well to consider the contemplated purchase from several viewpoints. First, need. If one does not really need the article it will be worse than useless, since it not only will fail to serve a purpose, but will occupy space that might otherwise be used to advantage, and will waste energy every time it is lifted, dusted, or washed.

"Second, efficiency. Will the tool or utensil in question actually perform the work for which it is designed as well or better in as little or less time than something else you now have or could buy?

HOW ABOUT MAYONNAISE MIXERS?

"Third, simplicity in construction. If an article is so complicated that the average person cannot operate it with ease, it should be considered carefully before a purchase is made. If you expect to use the article yourself it may pay, but if you expect to put it into the hands of servants it may prove worthless. Complicated utensils also take time and effort to cleanse. If it takes longer to wash and dry a mayonnaise mixer than it does to mix the dressing with a spoon or fork your tool may not be so efficient as you think.

"Fourth, comparative cost. Is it cheaper to buy a \$1.50 agate ware teakettle that will last two or three years, maybe, or a \$5 aluminum one that will last indefinitely? Initial cost seldom determines whether or not one is getting a bargain. Suitability and durability should be considered before cost. Kitchen utensils are ordinarily made of tin, wood, agate or enamel ware, crockery, iron, or aluminum.

"Tin is cheap, light, and excellent for baking bread and cake, but it is not durable or suitable for cooking acid foods and is hard to keep as bright and shiny as the careful housewife would like to have it.

WOODEN SPOONS INDISPENSABLE

"Wooden ware is fairly light and does not chip or break readily. However, it retains odors and flavors, and discolors and cracks if it does not receive proper care. After much use it becomes worn and splinters off. As a rule it is reasonable in price and can be replaced. Wooden spoons are almost indispensable in the modern kitchen. They are not attacked by acids and do not wear the hands and scratch utensils as metal ones do.

"Agate and enamel wares having glazed surfaces are easily cleaned, are not attacked by acids and alkalies when the coating is perfect, and are moderate in price. The greatest drawback to this type of utensil is that it chips easily and unless placed in the hands of an exceedingly careful person will not last long.

"Crockery ware is useful chiefly for bowls and baking dishes. If the glazing is perfect it is easy to keep in good condition from a sanitary viewpoint. It retains heat well, but chips and breaks if carelessly handled. When of good quality it is rather expensive.

"Iron is durable, cheap, and well adapted to pan broiling and other cooking processes where intense heat

is required, but disagreeable to clean and too heavy to find much place in the kitchen furnishings of the housewife who doesn't care to waste energy.

ALUMINUM HAS ADVANTAGES

"Aluminum is light and, if of good quality, durable. It does not chip, but dents more or less easily. Often, however, the dents can be pounded out. It is suitable for cooking all sorts of foods. The chief drawbacks are that the ware is still rather expensive and exceedingly hard to keep bright.

"In buying utensils of any ware it is important to have them suited to their use in shape and size, to avoid square corners whenever possible. When these are necessary, the use of wire or fiber brushes will help much in their cleansing. Flaring sides rather than vertical ones often waste space and heat. The aluminum fireless cooker kettle of medium height, with its flat bottom, vertical sides, and tight fitting top, is an example of an efficient utensil. Neither heat nor space is wasted and much time is saved in cooking. These kettles are useful for ordinary cooking and canning as well as in the fireless cooker and can be bought at most good hardware stores for a reasonable amount.

"It is the business of the ambitious housewife to make a thorough study of the various materials used in the construction of kitchen materials, their durability, cost, and relative suitability for certain purposes. She will also study the finished product with reference to size, shape, and construction."

BILLBOARDS'LL GET YOU IF YOU DON'T WATCH OUT

Advertising Works on Your Subconscious Mind, Says H. W. Davis—You Believe in Spite of Yourself

"You'd better watch out or the billboards'll get you," said H. W. Davis, associate professor of English in the Kansas State Agricultural college, in a lecture on advertising before the class in the economics of journalism, Monday.

"Advertising appeals," said the speaker, to the subconscious self. One of the saddest things about modern advertising is that it tends to make one dissatisfied with what he has already. If you read repeatedly an advertisement of a brand of tobacco saying that 'the men that do are the men that chew,' after a while the chances are that you'll come to believe it, whether it's so or not.

"The modern advertising campaign began in order to keep the production cost down. Magazine space is relatively cheap compared with the cost of maintaining personal salesmen. Mail order houses make their sales through the use of advertising."

Professor Davis defined advertising as "a wholesale method of selling." He termed it a loose method because it is impossible to determine what results an "ad" will bring.

The speaker said that advertising can be used as a missionary for business, as a control or stabilizer of business, or as an agent of economic distribution. It may put the goods before the consumer, precede and follow up the salesman, break ground for a general selling campaign, or act as a direct selling force. It tends to make a salesman more efficient by making him thoroughly acquainted with the characteristics of his goods and by the same means stimulates his selling power.

SHALL COLLEGE MAKE ITS OWN SWEEPING COMPOUND?

Experiments in Progress Will Determine Whether Money Could Be Saved

Experiments are being made in the basement of the old agricultural building to ascertain whether or not money could be saved if the college would make its own sweeping compound.

Sweeping compound is made of sawdust, sand, and oil. The sawdust used in the experiments is from the college shops.

"We use a ton of compound a month," said G. F. Wagner, custodian. "If the college decides to make sweeping compound, it will be necessary to buy a car of sawdust."

WHAT HORSES IN KANSAS

DOCTOR McCAMPBELL ADVISES THREE SPECIFIC CLASSES

Size, Substance, Style, Step, and Quality Are Important, According to Expert—Prices Have Risen Gradually Through Last 10 Years

The most desirable horse for Kansas requirements is the one that performs the work required most efficiently and economically, and sells at the greatest profit, if sale is desired or necessary, in the opinion of Dr. C. W. McCampbell, assistant professor of animal husbandry.

"Under average conditions," said Doctor McCampbell, "this horse will be one in which we will find a combination of size, substance, style, step, and quality. The urgent need today in horse raising is a greater appreciation upon the part of the horse raiser of style, action, and quality in big horses. Nothing adds more to the value of a big horse than these three things.

"In fact, a big horse without style, action, and quality is a very undesirable, unsatisfactory, and expensive form of motive power on the farm and in the city. Each year sees greater discrimination against and less demand for inferior horses, both large and small, and a corresponding increase in values of high class horses of three kinds—wagon horses, chunks, and drafters. Horses of these three classes are derived from draft breeds.

WHAT VARIOUS CLASSES WEIGH

"Wagon horses weigh from 1,250 to 1,500 pounds and show style, action, finish, and substance to a marked degree. Chunks weigh from 1,350 to 1,600 pounds and are, as the name implies, compactly built, averaging about two inches less in height than wagon horses of equal weight. They, too, must show plenty of quality, action, and especially substance to sell well.

"Draffers weigh from 1,600 pounds up—the bigger the better if they have style, substance, action, and finish and are snappy movers.

"Good horses of these three classes have been selling at prices ranging from \$175 each for light wagon horses to \$350 each for the heavy drafters during the last year. Contrary to the general opinion, stockyard records show there has been a gradual increase in the selling value of good horses of these three classes in the last 10 years.

GREATER MOTIVE POWER DEMANDED

"Deeper tillage and heavier machinery have created a demand for greater motive power, and experience has shown that the horses of the three classes—wagon horses, chunks, and drafters—especially the heavier ones, are the most satisfactory. Another advantage in raising these three classes of horses is the fact that they can be put to work when 3 years old and worked for a few years, increasing enough in value each year to make the service they render absolutely free. This statement is not theory. It is the experience of many good farmers, and anyone who understands horses can duplicate the experience.

"The most desirable horse for Kansas requirements then is the one that renders efficient services, increases enough in value while rendering this service to pay for his keep, and finds a ready market when fully mature and ready to go. Well made horses weighing from 1,500 pounds up, with style, substance, quality, and action, will do these things if they are bred and handled properly."

SELECTS DOCTOR WILLARD TO GIVE PUBLIC ADDRESS

Kansas Academy of Science Gives Local Dear Leading Place on Program

Dr. J. T. Willard, professor of chemistry and dean of general science, has been selected to deliver the annual public address of the Kansas Academy of Science Friday, January 14. His subject will be "Some Nutritional Characteristics of Corn." The address will be illustrated.

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GREAT MEN NEED IDEALS

RAYMOND ROBINS POINTS OUT PROBLEMS OF MODERN LIFE

Chicago Social Worker in Series of Meetings for Professors and Students—Present Generation Has Greatest Responsibilities in History

Raymond Robins—at one time coal miner in the south, San Francisco lawyer, pioneer of the last American frontier, the Klondike, and now social worker in the slums of the Seventeenth ward of Chicago—opened the Robins-Childs meetings, for the students and faculty members of the Kansas State Agricultural college, Thursday morning by addressing the student assembly.

The meetings from January 6 to 9, as conducted by these leaders, Raymond Robins and J. L. Childs of Chicago and others, form a religious and social service campaign. It is being conducted under the auspices of the Christian associations in coöperation with Manhattan churches and pastors.

"Great principles are not so much in need of great men," declared Raymond Robins, "as great men are in need of great principles."

MODERN LEADERSHIP DEMANDED

"Let me tell you, sons and daughters of Kansas, that great responsibilities—great problems—await you. You must be big enough to find the solutions."

"The young men and the young women of this generation will have the greatest responsibilities of any people in all history."

"I am not unmindful of the struggle of two generations ago when I make that statement, I am not unmindful of the Revolutionary war, I am not unmindful of the wars of the German reformation, I am not unmindful of any of the great struggles in the history of the human race. That is an interesting and striking statement, if it is so. And now let us see if it is so."

Mr. Robins explained by numerous clear examples just what conditions existed which called for added qualities of leadership for the next thirty years.

The home, which used to be disciplined by the parents, says Mr. Robins, is not and cannot be controlled by the father or the mother under the conditions of the modern congested community center, where the father and mother work for long hours while the children play in the streets.

That modern industrial conditions and changed methods of government are also presenting serious problems which must be solved, was also pointed out by Mr. Robins.

FOR SELF REALIZATION

Mr. Robins makes it clear that he is not making a plea for an indefinite end, but rather calling all men to a realization of their intrinsic worth and possibilities, that they may accomplish some definite good.

"I am not interested in emotion," says Raymond Robins, "necessary as the emotional life is, unless that emotion comes from some great intellectual conviction. I am not interested in temporary results, or in mere numbers."

"But I am interested in the man of determination, I am interested in the man of iron, I am interested in the man of conviction who can stand out and let the waves of temptation beat against him and yet stand firm."

ADDRESSES COLLEGE FACULTY

Mr. Robins made also a brilliant address to the members of the college faculty Thursday afternoon, in which he pointed out the responsibility of teachers for leading young men and women to high standards through personal influence. He was introduced

by President Henry Jackson Waters, who spoke briefly of the moral duty and opportunity of the teacher.

The rest of the meetings comprise addresses and special conferences, arranged with a view to bringing students to right ideals of social justice and individual religion.

KANSAS AGGIES MAY WIN CHAMPIONSHIP OF VALLEY

Merner Looks Forward to Successful Season—Schedule of 1916 Athletic Events is Announced

That the Kansas Aggies will make the winner of the Missouri valley championship play a fast game this year or will take the honors themselves is the opinion of Carl J. Merner, coach for the Aggies.

There are six old letter men back on the team and promising material from the freshman team of last year. Coach Merner expects to have the best team in the history of the college.

"The team will be fast and brilliant in its playing," says Coach Merner. "But while the men are feeling good over the season's prospects, they are by no means overconfident."

"I cannot say what men will start the first game with Kansas Wesleyan Monday night, but the probable line-up will be as follows: Adams, l. f.; Reynolds, r. f.; Leonard or McIlrath, c.; Ramsey, r. g.; Macmillan, l. g."

Twelve conference and five non-conference games will be played. As the other teams of the conference will not have so many veterans as have the Aggies, it is believed that the Aggie team will be the "terror" of the conference.

The college schedule of athletic contests for 1916 was announced following the return of the Aggie officials from the recent Missouri Valley conference in St. Louis.

The schedule:

Basketball—January 10, Salina Wesleyan at Manhattan; January 14, Washburn at Manhattan; January 20, 21, Kansas at Lawrence; January 27, Emporia Normals at Manhattan; February 2, 3, Washington at Manhattan; February 11, 12, Nebraska at Lincoln; February 17, 18, K. U. at Manhattan; February 22, St. Marys at St. Marys; February 28, 29, Missouri at Manhattan; March 2, Warrensburg Normals at Warrensburg; March 3, 4, Washington at St. Louis.

Indoor track—February 21, Kansas at Manhattan.

Outdoor track—April 22, Drake relay at Des Moines; April 29, Missouri at Manhattan; May 12, Normals at Emporia; May 19, Kansas at Manhattan; May 27, Missouri Valley meet at Columbia, Mo.; May 13, State High School meet at Manhattan.

Football schedule—October 6, Southwestern at Manhattan; October 14, Nebraska at Lincoln; October 21, Normal at Manhattan; October 28, K. U. at Lawrence; November 4, Kansas Wesleyan at Manhattan; November 11, Missouri at Manhattan (home coming day); November 18, Drake at Des Moines; November 25, Oklahoma at Norman; November 30, Washburn at Manhattan.

POTTER WILL HAVE BUSY WEEK OF SPEECH MAKING

Engineering Dean to Make Addresses Before Well Known Organizations

A. A. Potter, dean of engineering in the agricultural college, will speak Wednesday evening before the Topeka section of the National Association of Stationary Engineers on "Steam Generation." Thursday he will deliver an illustrated lecture on "The Modern Traction Engine" before the state board of agriculture. Friday evening he is to speak to the Southwest Technology association at Kansas City. His subject will be "The Engineer and the Southwest."

PUTS IT UP TO FARMER

PRESIDENT WATERS SHOWS RESULTS OF AGRICULTURAL EDUCATION

Colleges Can Train Only Leaders—High and Graded Schools Should Offer Practical Instruction, Expert Tells International Scientific Body

Students trained in agricultural colleges, and pupils trained in agriculture in the high schools and in graded and rural schools are giving farmers a hard tussle in the modern battle for efficiency, according to an address delivered by Dr. Henry Jackson Waters, president of the Kansas State Agricultural college, before the Pan-American Scientific congress in Washington, D. C., this week.

In speaking on "A National System of Agricultural Education," President Waters said:

"When a young man who had been reared in a watch factory, who had never visited a stock farm, could, in his junior year in the Delaware Agricultural college win first place in a national stock judging contest, in competition with young men from the entire United States and Canada, evidence is shown that the colleges are teaching agriculture that commands respect. When pupils of a high school in Texas, under the direction of a teacher of agriculture, can produce three-fold more cotton, not on a city lot but in a field, than the farmers of the community produced, there is no longer any question concerning the advisability of teaching agriculture in the high school. When the children of a rural school in Kansas at an educational rally pass a better examination than do their parents on how to build a silo or how to compound rations for dairy cows, the possibilities of improving agricultural practice through instruction in the rural schools are clearly shown."

ONE GRADUATE TO 1,600 FARMS

Agricultural colleges cannot do more than train the leaders in agriculture, in the belief of President Waters. In the United States fewer than 20,000 students are pursuing courses in agriculture. If all these students should graduate and return to the farm the agricultural colleges would be contributing on an average 5,000 scientifically trained agriculturists a year to be distributed over 8,000,000 farms, or an average of one graduate to 1,600 farms.

The United States, Doctor Waters holds, needs a sufficient number of rural high schools so that every boy and girl in the country may have the same opportunity to secure a high school education as the boys and girls in the city. But the problem of educating farmers is by no means solved when agriculture is successfully taught in all the high schools, for comparatively few of those who farm ever attend a high school. From 75 to 90 per cent of the boys and girls of the country leave school and enter their life's occupation before they reach the high school. The real problem, therefore, is to devise a system of agriculture for the grades and for the rural schools that will best fit these young people to take their places in society and in the industries. Perhaps nine-tenths of the farmers go directly to their occupation from the rural school.

PRESS HAS HELPED TEACH

President Waters pointed out that the early attempts at teaching agriculture were failures principally because the men on the farm knew more about farming than did the teachers. This situation led to the establishment of agricultural experiment stations and a system of extension teaching through farmers' institutes, farm demonstrations, and press articles. Thus agricultural instruction has already made two distinct and important departures from educational traditions—one in the organized system of research through which a body of knowledge pertaining

ENROLMENT IS HIGH

The college enrolment so far this year is 3,175. The total for the whole of last year was but 3,089. There are now 2,631 students in residence, a gain of 115 over the winter term of last year.

EDITORS TO MEET HERE

NATIONAL COLLEGE ASSOCIATION TO HOLD CONFERENCE IN JUNE

Experts from Agricultural Institutions in All Parts of United States Will Be in Attendance—Program Is Being Arranged

to the subject was created, and the other in an organized system of extension or continuation teaching through which parents as well as teachers are reached through this new found knowledge.

"Interest in agriculture is universal," said Doctor Waters. "City children need instruction in agriculture as well as country children. In the United States 81 per cent of the raw materials used in manufacture are taken from the farm. The children of the working man, banker, or merchant must know that proper agricultural development offers them and their parents real opportunities for employment. City children should learn that no civilization has withstood the decay of its rural people. With properly trained teachers in a well organized national system of education, there is no reason why agriculture may not become the most interesting, the most inspiring, and the most successfully taught subject in the schools."

MEN LIKELY TO VOTE FOR WHAT THEY LIKE

Therefore They Don't Make Good Judges of Home Products, Says Expert—Women Food Idealists

That women excel as judges of home products at county and other fairs is the belief of Miss Frances L. Brown, director of home economics in the division of extension, Kansas State Agricultural college.

"The judge must know the standards of all products that are entered," said Miss Brown. "A woman trained in home economics has learned the value of each grade and knows that the product cannot be judged by appearance.

"The best looking loaf of bread is not always the best nor the biggest cake always the finest. Each article must be compared with an ideal specimen in its class. The one coming nearest the ideal should be awarded first place.

"The necessity for training should be especially emphasized. A man is likely to judge by what he likes and accordingly judges by what he has been used to in the way of foods. The pie mother used to make may be inferior when compared with those of the accepted standards. The woman trained in home economics judges according to ideals and not tastes."

HOME ECONOMICS IS SOCIAL STUDY, ASSERTS EDUCATOR

Subject Should Deal with Practical Problems of the People

"Home economics means more than just cooking and sewing. It is really a social study, which meets the needs of the people and solves their problems," says Miss Helen Halm, assistant professor of home economics education in the agricultural college.

"This study is one of the greatest of the day. More persons are becoming interested in this work and are desirous of finding out its real significance. The teaching of home economics is being made more interesting, as the work is being vitalized; that is, connected with the study of the human side of life.

"This study should not be made so scientific that no one but a scientist can understand the work, but it should correlate the theoretical side of home economics with the practical problems of the day."

TO DISCUSS PRACTICAL SUBJECTS

Practical subjects in line with the work of the members of the association will be discussed at the meeting. Among matters to be taken up are the efficiency of bulletins and press service, agricultural matter in farm publications and newspapers, and the use of a printing plant in an agricultural college. Several Kansas men and a large number of speakers from all parts of the country will be on the program.

Entertainment features will include a banquet and a trip of inspection of the agricultural college and possibly of Fort Riley.

The executive committee, which is in charge of arrangements for the meeting, consists of F. W. Beckman, Iowa State College, president; F. C. Jeder, North Carolina College of Agriculture and Mechanic Arts, vice-president; Dr. B. E. Powell, University of Illinois, secretary; C. A. Whittle, University of Georgia; N. A. Crawford, Kansas State Agricultural college.

STATE SCHOOLS CO-OPERATE IN GIVING SHORT COURSES

Agricultural College and Three Normal Institutions Join in Practical Work

The most recent demonstrations of effective co-operation in educational work among the state institutions are the short courses in agriculture and home economics conducted jointly by the Kansas State Agricultural college and the state normal schools.

The normal schools furnish most of the instruction in home economics and have charge of the local arrangements for the short courses. The agricultural college furnishes the instruction in agriculture and some assistance in the work in home economics.

The first short course was conducted last week at the Pittsburg Manual Training Normal school. A course at the Fort Hays Kansas Normal school was held in December. A third will be held at the State Normal school at Emporia February 14 to 18, inclusive.

Representatives of the Fort Hays Experiment station and district agricultural agent for west central Kansas assisted in the courses in agriculture at Hays. At Emporia, an agricultural congress is planned in connection with the last day of the course. Several representatives of the faculties of the various normal schools and of the agricultural college will give special lectures and addresses during each course in addition to the class work by the regular instructors.

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N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

Except for contributions from officers of the college and members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism. The mechanical work is done by the department of printing. Of these departments Prof. N. A. Crawford is head.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

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SATURDAY, JANUARY 8, 1916

Now that the farm work is light, the farmer has time to read the advertisements of strawberry plants that will bear for six months in the year forever.

Business men often assert that training in arithmetic used to be much better than it is today. In this connection it is perhaps worth observing that the Manhattan street car company thinks a man saves 20 per cent when he buys \$1.20 worth of tickets for \$1.

The surest remedy for self-conceit is an examination by one of the modern systems of psychological tests. The American psychologists' convention, it is reported, has determined, by means of such a system, that any one who doesn't know the meaning of "chamfer," "testudo," "mitosis," "synecdoche," or "peneplain," is not intelligent.

FOR PUBLIC SERVICE

More and more the newspapers of the United States are recognizing the enormous opportunities which they possess for public service. The most modern step in this direction is the guarantee of all advertising on the iron-clad basis of money back to the purchaser of goods from the advertiser if they are not satisfactory. The New York Tribune started this plan and it is being gradually followed by other papers. Last year it was followed by the Lynden (Wash.) Tribune, edited by a former Kansas man. His success has shown that the plan is entirely applicable to the country as well as the city newspaper. Beginning the first of this year, the Washington Herald, a big metropolitan daily, is guaranteeing its advertising.

Thus the movement grows. Newspaper men are conservative and the number of papers adopting a new plan is always small at first. When once the ice is thoroughly broken, however, the increase comes rapidly. Within a few years, it is safe to predict, the newspaper that does not guarantee its advertising will be an exception.

There is no greater material service that a newspaper may perform than that of guaranteeing its readers against financial loss through advertising carried by the publication. At the present time, American newspapers are, on the average, miles ahead of European papers in this respect. But there is still room for improvement in most cases. The newspaper that guards its readers against loss is the newspaper that has the confidence of its readers, and this confidence is what honest advertisers are paying their money for. An advertising guarantee helps not only the public but the newspaper itself.

AMERICAN AGRICULTURE IN 1916

What should the year 1916 mean in American agriculture?

In the first place, it should mean increased yields of crops. The year 1915 produced farm products in the United States totaling in money value ten million dollars. This shows a healthy increase over the preceding year. The year 1916 should show an even better result. It is argued by some that the war will result in a depleted popula-

tion in Europe which will mean less demand for agricultural products. The decrease in population, however, will mean more than a corresponding decrease in crop yields in the countries where it occurs. For agriculture, like other industries, will be disorganized.

In order to secure not only improved crop yields but also to insure fair prices, diversified farming should be practiced. This is a warning applicable particularly to the south, but of importance also to individual farmers here and there in the north who have not yet realized its importance.

In the second place, the year 1916 should mean improvement of transportation and other marketing facilities. In many parts of the country, lack of these is the greatest hindrance to effective agriculture. Cooperation in securing good roads and in actual marketing is an essential.

In the third place, the year 1916 should show an appreciable improvement in the conditions of rural life. It should mean better rural schools, better rural churches, and better social life in rural communities.

These three things—larger crop yields, better marketing facilities, and a healthier social life in the rural community—are the great contributions which American agriculture can make not only to its own welfare but to the welfare of the entire world in this present year.

MRS. ELIDA E. WINCHIP

In the death of Mrs. Elida E. Winchip the world has lost another of the teachers that had a large part in making the industrial education of this college what it was in the earlier period when its reputation in this respect was being established.

Suddenly left a widow with three small children, she met and mastered the problems thus thrust upon her with the greatest fortitude and complete success. From 1884 to 1897 she was at the head of the sewing department here and shortly after her resignation she accepted a similar position in Bradley Polytechnic Institute, Peoria, Ill., where she remained up to the time of her death. In her connection with the two institutions she made a host of friends with the young women coming under her instruction, and left an impress for good upon all who were associated with her. Her life was one worthy of emulation and her influence and memory will long remain.

GOOD ON MILTONIC TRADITION

That John Milton influenced powerfully both the didactic verse of the eighteenth century and the romantic movement that had its genesis in the same period, is the belief of Dr. John Walter Good, assistant professor of English literature in the Kansas State Agricultural college, whose new work, "Studies in the Milton Tradition," has just been published.

Doctor Good makes a careful and scholarly survey of the attitude of the public toward Milton in the restoration period and in the whole of the eighteenth century. The author reviews in detail the various editions of Milton's work and the references to Milton in critical and other literature. His quotations from slightly known works make his study of high value to students of the history of English poetry.

Doctor Good takes a high view of the effect of Milton's work, both prose and verse, upon the thought and writing of the eighteenth century. With reference to the poet's influence on didactic poetry, Doctor Good says:

"The influence of Milton upon the didactic and purely religious element in the eighteenth century poetry was direct, powerful, and almost entirely from 'Paradise Lost.' Milton stood for Aristotelian conceptions of poetic art, that poetry was to please and to instruct, but with the heavier emphasis upon the latter function. He had but one standard for the poet, for poetic theory, and for poetic practice. Within his own soul, and throughout all his prose and verse, the reader is conscious of an uncompromising struggle between Milton and the Powers of Darkness. The battle is ever in array. As conceived by Milton, the conse-

crated office of the poet made him a prophet of God, the herald of ideals that knew no compromise with evil.

"As seen, therefore, from this angle, by the moralizing eighteenth century, Milton was not only the greatest of all poets, but he was greatest very largely because he was felt to be the greatest preacher of righteousness. Gradually the English public had come to this conviction through the contemplation of Milton's great social, political, and spiritual message to the world. In this capacity Milton became, as in other things, a poetic example and inspiration. To him, perhaps more than

the University of Illinois Studies in Language and Literature. It is a large octavo volume of 310 pages.

SMART COMMENDS COLLEGE

"Kansas has a wonderful institution at Manhattan," said District Judge C. A. Smart of this city, who delivered the commencement address to 46 mid-winter graduates of the Kansas State Agricultural college. He spoke on "The Call of the Hour" and urged the young men and women to aspire to better things.

"Some very valuable information for the farmers of the state is being

EPITAPH

Eden Phillpotts

When the dust of the workshop is still,
The dust of the workman at rest,
May some generous heart find a will
To seek and to treasure his best.

From the splendor of hopes that de-
ceived;
From the wonders he planned to do;
From the glories so nearly achieved;
From dreams that so nearly came
true;

From his struggle to rise above earth
On the pinions that could not fly;
From his sorrows; oh, seek for some
worth

To remember the workman by.

If in vain; if Time sweeps all away,
And no laurel from that dust springs;
'Tis enough that a loyal heart say,
"He tried to make beautiful things."

SUNFLOWERS

Whenever a man is sick, people
wonder if he hasn't been drunk. If a
woman is ill, people say she has over-
worked, poor thing.

When a man gets rich enough, he
retires and writes tracts, for free dis-
tribution to the newspapers, on sub-
jects he knows nothing about.

Speaking of consistency, a Chicago
man who tried to drown himself al-
lowed himself to be rescued because a
policeman threatened to shoot him.

Elbert H. Gary says peace will
overturn business. The munition
business, perhaps—which would be
regretted, of course, by all patriotic
citizens.

The K. C. Star talks about "kissing
in self-defense." Please elaborate.
If it's as good as it sounds, we'll
adopt it as our permanent method of
defense.

A Wichita man has sued the Mis-
souri Pacific railway for injuries sus-
tained when he ran into one of its cars.
The Missouri Pacific trains have a
hard time keeping out of the way of
healthy pedestrians.

AND AT NORTHWESTERN!

Cheeks must not touch, arms must
not be around necks, and there must
be a space between couples at all
dances hereafter held by Northwestern
university students.—Atchison Globe.

Some of the boys and girls at that
good old institution have evidently
got the idea that a dance is a big
catch-as-catch-can wrestling match.

RURAL TELEPHONE SERVICE

Until recently the rural telephone
has largely served as a medium of ex-
change between farmers, and for or-
dering supplies from dealers in town.
But it has been demonstrated that the
rural telephone can easily perform
other service of equal importance.
There are now country districts where
the telephone company has undertaken
to supply a daily news service. At a
certain hour the telephone rings five
times. That is the news signal and
every interested subscriber along the
line takes down his receiver. Then
the central operator gives the weather
report, a condensed market summary
and important news. It takes but a
short time to give this information to
every subscriber, and the line is tied
up only for a few minutes.

This idea may be carried still fur-
ther. Where the telephone company
is owned and operated by the farm
subscribers themselves, the manager
at the central office may act as a mar-
ket agent. The subscribers advise
him of the products they have for sale,
and those they wish to buy. Nearby
dealers and others who are "on the
market" send him their wants. A com-
plete list of the products demanded is

made up and read over the phone.
The subscriber then notifies the man-
ager of the business he will care for.
Farmers are able to sell in 15 minutes
products which might take half a day
to dispose of, if each buyer had to be
personally visited. It is a great idea.

There are many other labor-saving
and profitable schemes of a similar
nature which can be worked out equally
well over the rural 'phone.—Orange
Judd Farmer.

to any other single force, is chargeable
the heavy moral yoke that was placed
upon poetry during the eighteenth century.
Under his influence the religious
Parnassus became a theological
seminary; and the poetic muse entered
the common walks of life as a formal
schoolmistress, discoursing, in endless
blank verse, about the arts, and ornaments,
and duties of life. The tendencies to paraphrase exalted portions of
Scripture, to sermonize thereon in
blank verse, and to write endless moral
and biblical epics in the same measure,
were products, in part at least,
of the same fruitful influence."

The universal character of Milton's
appeal is shown, according to Doctor
Good, in the influence exerted by the
poet on romanticism.

"This conception of the prophetic
consecration of the creative imagination,
received from Milton, was trans-
fused," he writes, "by Edward Phillips
and others into the standard concep-
tions of poetry. The conviction of a
fundamental religious inspiration in
poetry was caught up by Dennis and
emphasized as the condition of all
great works in poetic art. The moral
purpose in poetry was quickened, and
gave a tone of 'high seriousness' to
literature in general, which may be
reflected in the 'literary gospels' of the
nineteenth century. The premium
placed upon the creative imagination
breathed the breath of poetic life and
fire into the ode writers who rose at
the middle of the eighteenth century.
In a word, it was this poetic platform
of Milton, made concrete and irresist-
ible in 'Paradise Lost' that read itself
into the secret heart of the English
people, and, more than anything else,
stimulated the revolt in literature, and
transformed the national taste so much
that the conventional, the common-
place and the couplet were all alike
intolerable."

Doctor Good's book is published in

gathered together there," he continued.
"The state is doing a great service
by maintaining such a school where
men and women are trained to manage
their future business interests to
the best possible advantages."—Ottawa
Herald.

A QUARTER CENTURY AGO

Items from the Industrialist of January 10, 1891

Professor Popenoe is the owner of a
new Remington typewriter.

The students' payroll for December
footed the nice little sum of \$888.53.

Scott Higinbotham, student in for-
mer years, is studying law with Atto-
ney Irish in Manhattan.

Regent and Mrs. Hessian entertained
a large number of friends last week in
honor of their daughter's birthday.

The last proof sheets of the biennial
report of regents and faculty have
been received, and the work will be
issued next week.

Ex-Governor Glick will read a paper
entitled, "Our Agricultural College:
What It Is, and What It Should Be,"
at the annual meeting of the state
board of agriculture.

The attendance at this date, Saturday,
January 10, is 485. The total
number of students who have been
assigned to classes this year is 530,
high-water mark in attendance having
been reached.

The college received yesterday two
fine Shropshire ewes—the pick of the
flock—from George Allen of Allerton,
Ill., one of the foremost breeders of
these animals.

In repairing the basement of Anderson
hall last spring some scrap iron
was found which has been used since
in making iron steps for Kedzie and
Anderson halls and for Nichols gym-
nasium. The steps were cast at the
college foundry.

AMONG THE ALUMNI

J. W. Allen, '14, who also took graduate work last year, is at his home in Norwich.

Hachiro Yuusa, '15, of Tokio, Japan, will return to Manhattan to do further college work this term.

Miss Mabel Broberg, '12, who is teaching domestic science in the high school at Lyons, spent the Christmas vacation in Manhattan.

H. A. Dieball, '01, who is in the stock business at Alma, Kan., visited the college recently. He was a member of the varsity baseball team.

A. W. Aicher, '15, of Denver, Col., recently purchased a herd of twenty Holstein cows. Mr. Aicher expects to sell sweet cream in Denver.

George Baird, '14, was a college visitor recently. Since his graduation from the mechanical engineering course, he has been with the Westinghouse Electric and Manufacturing company at Pittsburgh, Pa.

Miss Ruth Edgerton, '12, writes that she is greatly enjoying her work at Ames, Iowa, this year. She recently attended the meeting of the Iowa State Teachers' association at Des Moines, where she met a number of old college friends.

Willard W. Lawton, '10, and Mrs. Bertha (McKeage) Lawton and their son, Donald, spent the latter part of the year attending the California expositions and renewing college acquaintances. They are living in Portland, Ore.

W. H. Goldsmith, '11, has become manager of the Dickinson County News at Abilene. Mr. Goldsmith has been in journalism since his graduation from the college and for the last two years was on the staff of the Herington Sun.

E. H. Smies, '13, has completed soil surveys of Sioux and Scott counties, Iowa. He will soon go to Alexandria, La., to assist in making a soil survey of Rapides parish. Mr. Smies and Mrs. Smies, who was Miss Winifred Lois Alexander, '10, will spend the winter in Alexandria.

John B. Sieglinger, M. S. '15, was in the city recently on his way to Washington, D. C. He is in the service of the federal department of agriculture, with headquarters at Woodward, Okla. Mr. Sieglinger holds a bachelor's degree from the Oklahoma College of Agriculture and Mechanic Arts.

C. M. Haines, '09, supervisor of manual arts in the Fort Worth public schools, contributes an excellent article on "Why not an All-the-Year-Round School?" to a recent number of the Texas School Journal. Mr. Haines has tried out successfully the plan of having school for six days a week in his department. The students are enthusiastic about the work.

The Everest Enterprise speaks in high terms of the work of Dr. G. H. Mydland, '14, who is practicing veterinary medicine there. The newspaper states that Doctor Mydland's success in the prevention of hog cholera "has done more for the hog industry in the vicinity of Everest than any single feature that has appeared for some time. It is hard to calculate the good that he has done in this vicinity."

BIRTHS

Born, to Mr. and Mrs. V. C. Bryant, '10, at Berkeley, Cal., on October 11, a daughter, Fern Frances.

MARRIAGES

VINETTA-GATES

Miss Merle Vinetta of Asherville and Mr. Ward Gates, '14, were married at the bride's home December 29. Mr. Gates is a member of Pi Kappa Alpha.

FRY-GOULD

Miss Velora Fry, '15, and Mr. M. L. Gould, '15, of Jamestown, Kan., were married at the home of the bride's parents, Mr. and Mrs. L. S. Fry, 525

North Manhattan avenue, at noon Tuesday, December 8.

SOLLER-COITH

Miss Bernice Soller of Washington, Kan., and Mr. Alvin T. Coith, '15, of Dodge City were married at the home of the bride's parents in Washington Wednesday, December 22. Miss Soller was enrolled in the housekeepers' course in the college last year.

MARCH-JONES

Miss Eleanor March, '09, and Mr. Donald F. Jones, '11, were married on Monday, December 20, at the home of the bride's mother, Mrs. Daniel Webster March, in Hastings, Nebr. They will be at home after February 1 at 877 Huntington avenue, Boston, Mass.

COWGILL-PRICE

Miss Vida Cowgill and Mr. Leo S. Price, '11, were married recently at the home of the bride's parents, Mr. and Mrs. Warren Cowgill, San Diego, Cal. Their home is in the same city. Mr. Price will be remembered as second base and captain of the football team.

HUTTO-CHURCH

Miss Garnett L. Hutto of Manhattan and Mr. John R. Church of Montague, Tex., former student and later instructor in physical education in the college, were married at the bride's home December 30. They will be at home after January 15 in Montague, Tex.

NEWKIRK-KISER

Miss Ethel Newkirk, '15, and Mr. A. F. Kiser, '14, were married at the bride's home in Geneseo, Kan., December 30. Mr. and Mrs. Kiser will be at home after February 1 in Washington, La., where Mr. Kiser is instructor in agronomy in the high school.

BROWN-JACKLEY

Miss Beryl Beatrice Brown and Dr. John Grover Jackley were married Tuesday, December 28, at the home of the bride's parents, Mr. and Mrs. David Monroe Brown, in Minneapolis, Minn. They will reside in Manhattan, Doctor Jackley being an instructor in bacteriology in the college.

ROBINSON-MACKLIN

Miss Miriam Robinson of Madison, Wis., and Mr. Theodore Macklin, instructor in rural economics, were married at the home of the bride's parents, the Rev. and Mrs. O. L. Robinson, in Madison December 28. The bride is a graduate of the University of Wisconsin in the department of music. Mr. Macklin took graduate work in that institution for several years.

FORMER COLLEGE PEOPLE DIE

Manhattan and the college mourns the recent loss by death of three former members of the college family.

First came the news from Peoria, Ill., of the sudden death of Mrs. Elida E. Winchip, who had been teaching domestic art in Bradley Polytechnic institute for the last 18 years. Mrs. Winchip is well remembered in Manhattan and on the hill as the head of the department of domestic art, where she taught for 13 years, from 1884 till 1897. She was an excellent teacher and a woman of estimable character.

From Atchison comes the news of the death of Walter C. Stewart, who was instructor in telegraphy and secretary of the faculty from 1874 till 1879. At the time of his death he was superintendent of the Atchison light and power plant. Mr. Stewart was an expert in electricity and especially in telegraphy at a time when experts were very rare in these branches. He left Manhattan to take charge of the introduction of the newly invented telephone for the St. Louis Telephone company.

Another death is that of Mrs. McCormick, wife of Edward B. McCormick, formerly dean of engineering. Mr. and Mrs. McCormick lived in Washington, D. C., since their departure from Manhattan, where he held a position as road expert in the federal department of agriculture. They are well remembered in Manhattan by the faculty and by the older students. Mrs. McCormick is survived by her husband and several children.

COCHEL IS NEW HEAD

LOCAL PROFESSOR PRESIDENT OF NATIONAL SCIENTIFIC BODY

Society of Animal Production Holds Highly Successful Meeting at Agricultural College—Program Filled with Addresses by Experts

W. A. Cochel, professor of animal husbandry in the Kansas State Agricultural college, was elected president of the American Society of Animal Production at the close of the most successful meeting ever held by that organization. J. M. Evvard of Iowa State college was elected vice-president and F. B. Morrison of the University of Wisconsin was elected secretary-treasurer. The decision as to the time and place of the next annual meeting was left in the hands of the executive committee.

The session here in the Christmas vacation—the first ever held at any college—was the most interesting and useful in the history of the society, according to many of those who expressed themselves at the close of the business session Thursday. The hackneyed subjects so often presented at national conferences were conspicuous by their absence, and the papers dealt with original investigations upon subjects of the greatest importance to live stock men.

WATERS EXPLAINS EXPERIMENTS

The feature of the session Wednesday afternoon was a paper and demonstration by Dr. H. J. Waters, president of the Kansas State Agricultural college, on "The Use of Food by Swine." This was the result of a series of tests planned by him and carried out by the animal husbandry and chemistry departments. The purpose was to discover what nutritive factor added to corn would make it a thoroughly balanced ration for hogs.

"What is the matter with corn for hogs?" asked Doctor Waters. "If hogs are fed on corn alone and are not allowed to run in pasture they very soon cease to thrive. What is lacking?

"Human experience is the best guide. On the farm, we know that if a small amount of skim milk is added to the corn, the hogs immediately begin to gain weight. Some authorities believe that corn lacks mineral matter; others assume that protein is lacking."

WHAT DOES CORN LACK?

The sixth trial in the experiments to determine the deficiencies of corn is now in process of completion. The tests are started with three pigs in a lot. Their weights at the beginning of the tests averaged from 35 to 50 pounds. Pig number 1 in one lot was a mate to pig number 1 in any other lot. Three litters were used in the experiments.

At the end of the trials, the weights differed greatly, some making a normal growth or better, others remaining at 30 to 40 pounds throughout the trial. The idea of the investigation is that the element needed to make corn a complete food for pigs can be determined by feeding separately the elements found in milk—a nearly perfect food—in various combinations with corn. By comparing the different results, the useful element of milk and the one lacking in corn can be found.

"The thing that impressed me most," said President Waters, "was the small amount of protein it takes to make a hog and the large amount of fat."

INVESTIGATORS SEE ANIMALS

"These experiments have not been such as to prove positively that we may supplement the deficiency of corn with protein but they are strongly indicative that if the farmer will get his protein in satisfactory form and in the right amounts, as in milk or possibly packing house by-products, sufficient ash will be supplied at the same time."

At the close of the demonstration, the association visited the experiment barn to see the pigs themselves.

E. N. Wentworth, professor of animal breeding, and C. E. Aubel, instructor in the subject, presented a paper on the inheritance of fertility in

swine. Their investigations seemed to indicate that there is a basic factor for fertility normally producing four pigs at a birth, similar to the litters farrowed by wild hogs, while factor producing distinctly high fertility also exists, with an average of 12 pigs, corresponding to the most fertile race of domestic swine, the Tamworth. More than 3,500 litters were involved in this study, all animals being of the Poland-China breed.

MORRISON ILLUSTRATES ADDRESS

A paper giving the results of investigative work carried on by Professors E. B. Hart and E. V. McCollum of the University of Wisconsin was read and explained by Prof. F. B. Morrison, also of Wisconsin, the subject being "The Influence of Strictly Vegetable Diets on the Growth and Reproduction of Swine." In the course of the discussion, Mr. Morrison showed photographs demonstrating in a very striking manner the differences resulting from feeding pigs a mixed ration of grain alone, a mixed grain ration plus 1 per cent meat, and a mixed grain ration plus 5 per cent meat. The two latter rations brought decidedly the more favorable results both in size and in general thriftiness.

Wednesday evening the discussions were devoted to the subject of proper courses of study for the student in animal husbandry. Prof. W. C. Coffey of the University of Illinois presented a paper on "The Animal Husbandry Curriculum."

"The first business of the agricultural college," said the speaker, "is to make good farmers."

WHAT IS A GOOD FARMER?

"What is a good farmer? He ought to be all that the lawyer or doctor is in his line—and then some. Not only should he receive a thorough technical training, but he should be prepared to perform his social obligations, which are in a way more difficult to satisfy than those of a lawyer or doctor.

"Vocational education is no new thing. It has always had a part in life. Its weakness has been that it has so often been unaccompanied by theoretical training.

"The practical subjects belong in a curriculum but should not dominate it. I hope we shall cling to the practical subjects, notwithstanding the contentions of those who would relegated them to the secondary schools."

Prof. E. S. Savage of Cornell university read a paper on "The Value of the Fundamental Sciences in Teaching and in Investigation in Animal Husbandry." He gave as the three objects of an animal husbandry course, to teach the science of animal husbandry, to teach the art of animal husbandry, and to teach leadership in life anywhere.

"This paper," said Mr. Savage, "is primarily a plea for greater attention to the sciences.

PROVIDE FOR FOUR CLASSES

"We must provide for four classes of students—those who will go on the farm, those who expect to do extension work, those who plan to teach, and those who will pursue research."

Prof. W. A. Cochel urged that students specializing in animal husbandry be required to have ample preparation in agronomy. "It is just as important for the live stock farmer to be a good crop grower," he said, "as it is for the grain farmer."

Those who appeared on the program or sent papers to be read were Dr. H. J. Waters, Manhattan; E. B. Forbes, Wooster, Ohio; J. A. Burns, College Station, Tex.; R. E. Caldwell, Lafayette, Ind.; E. B. Hart and E. V. McCollum, Madison, Wis.; E. N. Wentworth, Manhattan; J. M. Evvard, Ames, Iowa; W. A. Cochel, Manhattan; C. M. Vestal, Manhattan; W. H. Tomhave, State College, Pa.; H. S. Grindley and M. E. Slater, Urbana, Ill.; J. A. Fries, State College, Pa.; F. B. Morrison, Madison, Wis.; Sleeter Bull, Urbana, Ill.; W. C. Coffey, Urbana, Ill.; E. S. Savage, Ithaca, N. Y.; C. S. Plumb, Columbus, Ohio; G. C. Humphrey, Madison, Wis.; J. C. Ross, Urbana, Ill.; C. B. Lee, Lincoln, Nebr.; C. R. Moulton, Columbia, Mo.; H. H. Mitchell and R. A. Nelson, Urbana, Ill.

ENGINEERS ARE COMING

KANSAS SOCIETY TO HOLD ANNUAL MEETING AT COLLEGE

Association Has 125 Members Engaged in Wide Variety of Activities—Road Building, Manufacturing, and Public Service to be Discussed

The Kansas Engineering society will hold its eighth annual meeting in Manhattan January 18 and 19. There are 125 members of the society, who are working in various parts of the state, and it is expected that all will be in attendance here during the meetings of the society.

The meetings will be held in the amphitheater of the engineering building of the college. A two days' program has been provided for the sessions of the society, including papers on all the phases of the work covered by the Kansas engineers.

WATERS TO OPEN MEETING

The meetings will be opened Tuesday, January 18, with an address of welcome by Dr. H. J. Waters, president of the Kansas State Agricultural college. The rest of the day will be spent in hearing reports of committees of the society.

The Tuesday evening meeting will be devoted to such phases of engineering as apply to manufacturing. Wednesday morning the engineers will discuss roads and road building. Wednesday afternoon the visitors will inspect the college buildings and shops and will listen to a number of papers on subjects of interest to those members who are employed by the public.

ENGINEERS WANT LICENSE LAW

The Wednesday evening session, which will conclude the meeting of the society, will be devoted to the hearing of a report by a committee of the society which is working toward the securing of a state law requiring the licensing of engineers doing business in the state.

The officers of the Kansas Engineering society, which has been incorporated under the laws of Kansas, are: T. J. Strickler of Topeka, president; Alva J. Smith of Emporia, vice-president; C. A. Forter of Topeka, secretary and treasurer.

SOME ARE PREACHERS, OTHERS ARE JANITORS

Students Perform Variety of Work to Make Their Way in College—Institution Gives Employment to Many

Working as janitors, caretakers, gardeners, dairymen, and general handy men and then burning the midnight oil to keep up with their classes, many students of the Kansas State Agricultural college are daily demonstrating their eagerness for education.

G. F. Wagner, custodian of the college, uses 45 men who are paying all or part of their expenses while attending college. These students put in an average of four hours a day sweeping out the class rooms, halls, and offices, and washing windows, dusting, and doing work in the buildings. They receive from 15 to 20 cents an hour. Fourteen dollars a month is the average wage, the total monthly payroll of the department exceeding \$600.

The student workers are not, however, confined to the college. Students work for their board in restaurants, private families, and boarding houses. Room rent is sometimes obtained for services performed. Early in the morning, when the cold north wind makes the bedroom a very comfortable place, some of the students leave their rooming houses for the downtown district, where they fire the furnaces of Manhattan's "four hundred."

Three of the small towns near Manhattan have ministers from the student body of the agricultural college—students who are working their way. One student for two years successfully filled the place of assistant undertaker and embalmer in a downtown undertaking parlor. Others work as stenographers, speakers at out-of-town assemblies, and contributors to well known newspapers and magazines.

THE BEST WEEK EVER, SAY 1,000 KANSANS TO COLLEGE

FARM AND HOME FOLK SPEND HOLIDAY TIME HEARING ADDRESSES, TAKING PART IN CONFERENCES, AND SEEING BIG EDUCATIONAL INSTITUTION

Farm and Home week at the Kansas State Agricultural college—December 27 to 31—which brought 1,000 men, women, and children here from farms in more than 80 Kansas counties, was adjudged by those in attendance the most successful affair of the kind yet held at the college. It was characterized by strong addresses, helpful special conferences, and plenty of excellent entertainment. The representation of boys and girls was particularly large, and competition was keen in the special corn and other contests for club members.

The Jewell county delegation headed the list with an enrolment of 185. Leavenworth and Lyon counties were well represented.

Several important meetings of farm and stock organizations were held during the week. They were the Kansas Stock Improvement association, Kansas Swine Breeders and Growers, Kansas Fruit Growers, Kansas State Dairy association, Kansas Sheep Breeders' association, Kansas Beef Producers, and Kansas State Poultry federation. Many speakers of prominence delivered addresses at these meetings.

ENGINEERING APPEALS TO FARMER
Nearly 400 farmers and farmers' sons attended the short course in the division of engineering. W. A. Etherington, rural architecture expert in the college, displayed a model barn and a new plumbing device which he recently perfected to meet the needs of the rural communities of Kansas.

Fifteen leading traction manufacturers sent their representatives to the college. These men gave practical talks on the operation and care of traction engines. Exhibits of tractors, electric plants, and oil and gas engines interested the farmers.

"We need educational preparedness in Kansas more than military preparedness," declared W. D. Ross, state superintendent of public instruction, in speaking on "Rural Education in Kansas" in Farm and Home week.

"Contrary to a general idea that the free public school was brought to this country by the Pilgrims, it is a comparatively modern institution. The first free public school for all persons was established in Boston in 1818.

"We are inclined to take the free public school as a matter of course and are apt to fail to appreciate its purpose and benefits.

TRAIN FOR AMERICAN CITIZENSHIP

"We should have a system which in its true purpose trains for American citizenship. It is a common concern that we have good schools. It is more important to have good rural schools than good town schools—if there is any distinction.

"On the average, Kansas cities are paying double the tax rate for school purposes than the rural communities are paying. Because the country schools have been cheap schools, not much has been expected, and naturally the schools have been poor schools.

"Now that there are two families in the city to every family in the country the rural school must become a better and different one making the country life both attractive and effective. First, it should stem the drift from the country to the city. Second, it should train those who remain on the farm to become economic producers of the things all the world must have."

It is a waste of energy for men to go about talking world peace, in the opinion of Walter Burr, assistant director department of rural service in the Kansas State Agricultural college, who spoke on "Community Welfare and World Peace" at the general session Tuesday morning. "If you want to get on the world peace job," he said, "get busy back in the county

where you live. You can't take non-cooperative people and organize cooperative nations.

COOPERATION BASIS OF PEACE

"World peace must come. Nations will get together on a cooperative basis when the smaller units that compose nations get together on a like basis, and not until then. It is the question of the old age versus the new. The old age represents the spirit of fight—destructive competition. The new age represents constructive cooperation."

Mixed farming, including the raising of some form of live stock as well as crops to be sold directly from the field, was urged by A. R. Whitson, expert in soils from the University of Wisconsin, who spoke before the Kansas Crop Improvement association which met in connection with Farm and Home week.

P. H. Ross, county agricultural agent of Leavenworth county, read a paper on "Farm Bureau Activities for Crop Improvement." L. A. Fitz, professor of milling industry in the Kansas State Agricultural college, read a paper on "Effect of Field Damage on Milling and Baking Qualities of Wheat."

To give the youth of Kansas what they need educationally, and to give it at the least possible cost is the aim of the board of administration, Ed. T. Hackney, president of the board, pointed out in a strong address on "The Responsibility of the State in Educating its People." He told how each of the great institutions of learning has its particular functions to perform in the broad state educational plan.

"Our schools of education have a common front against the united responsibility," Mr. Hackney said. "They are training 15,000 persons to be exponents of what education will do—to show that education is practical.

HACKNEY FOR RURAL SCHOOLS

"To this institution has been given the burden of handling the greatest of industries in the state—agriculture. The college has to do with bettering conditions—improving the farm life of the state.

"There was a time when crops were thought to be the result of accident. We've got over that idea, and realize the necessity of taking advantage of expert advice."

The speaker put special stress upon the place which the rural school occupies in the educational system. "The schoolroom should be made as broad as the school district itself," he said. "It is necessary that we give thought to the training of the hand as well as the head. It is up to you to see that this training is given in your schools."

That community breeding is practically a necessity to success in the horse breeding industry, was set forth in a strong address on "Possibilities in Community Breeding," by W. L. Carley, dean of agriculture, Oklahoma Agricultural college.

The home should be made a business proposition, according to Mrs. H. M. Dunlap of Savoy, Ill. "Husband and wife should form a business partnership," declared Mrs. Dunlap, "and should be fully qualified to meet the demands made upon them, both remembering that money well spent is money well earned. In this new education that is beginning to hold up its head for recognition, a man will be taught that he can never hold the love and respect of his wife, unless there is established the proper financial relation between them."

HIBBARD ON RURAL CREDIT

For the government to undertake to finance the farmers of the United States would be entering a new chapter in history that would end no one knows where, declared Dr. B. H. Hibbard,

professor of agricultural economics in the University of Wisconsin, in an address on "Rural Credit" Thursday morning. While Professor Hibbard emphatically stated that the farmers must have money, yet it is a difficult thing, he contended, for a democratic form of government to lend money to itself and get it back again.

"Conditions are such that we must have farm credit if we have farm ownership," said Doctor Hibbard. "We need to make our mortgages more current. We must have longer time. Then we need some personal credit that will fit the needs of the farmers."

"More babies die in the country than in the city," declared Dr. Lydia De Vilbiss of the division of child hygiene of the state board of health, in an address before the rural life conference. "The reason for this is because the woman on the farm has less time to give to her baby and the child suffers from lack of proper care. We need more money to carry on our work efficiently. If the legislature would appropriate more money for inspection of children, there would be fewer defections to support in state hospitals."

Manless churches and intermittent Sunday schools without any religious teaching have placed on the home a weighty responsibility as to the religious needs of the youth of today, declared Walter Burr, of the division of college extension, before the church and home meeting.

RAISING PAGAN RACE—BURR

"Today we are raising a pagan race," said Mr. Burr. "Since our churches are practically manless, our Sunday schools are held intermittently, and we have no provisions for religious instruction in the schools, it is up to the home to provide for the spiritual needs of our youth."

Excellent results can be accomplished in Kansas through an organization of farmers that has as its purpose the improvement of agricultural conditions, even though no agricultural agent is secured, in the opinion of Edward C. Johnson, dean of the division of extension in the Kansas State Agricultural college, who spoke before the rural life conference in connection with Farm and Home week.

"The purpose of a farm bureau is to make farming more profitable and rural communities better places in which to live," said Dean Johnson. "Many persons have had the impression that a bureau exists only for the purpose of having a county agricultural agent.

"Farm and home institutes have worked wonders in agricultural education and have been the means of arousing to life many dormant communities in Kansas.

NEW VISION FOR INSTITUTES

"The institutes of the past have been in the nature of public forums where practical subjects pertaining to agriculture have been discussed. The institute of the future probably will take up more intensive study of the problems of agriculture, undertaking definite work looking towards community improvement."

"The religion of the Bible was raised in the country and moved into town late in life," said Dr. A. E. Holt, pastor of the Manhattan Congregational church, in speaking on "The Bible as a Farmer's Book."

The closing feature of Farm and Home week was a spectacular pageant entitled "The Folks Who are Building Kansas, the Heart of the Nation," in which several hundred persons took part. The event portrayed early history with particular reference to Kansas. Among the characters represented were Father Time, Indians, early settlers, and Columbus. Those who took part included boys and girls from all parts of the state in attendance at the annual institute. The pageant was under the direction of Walter Burr of the college and Miss Ceora Lanham of Topeka.

R. W. Wiscombe, pressman in the college printing department, won a third and a sixth on his exhibit of white wyandottes at the Panama-Pacific International exposition. His birds were entered in competition with several hundred others.

PAVING KANSAS STREETS

TOWNS IN THIS STATE LEAD IN MODERN IMPROVEMENTS

Many Counties Plan to Extend Permanent Highways into Country Surrounding Market Centers, Says Gearhart—Expert Services Are Needed

That more small cities in Kansas than in any other state in the union have paved their streets with first class materials in the last five years, is the assertion of W. S. Gearhart, state highway engineer.

"These cities began their work," said Mr. Gearhart, "by paving one or two blocks in the business districts, and extended operations until in many places practically all the streets have been paved. The most natural, practical, and logical development of this system will be the extension of these paved highways out into the country. Indeed, many counties are making definite plans for such a radiating system of roads.

DIRT SURFACE NOT ENOUGH

"In the last five years, Kansas built and was maintaining the finest system of earth roads in the world, but about ten months ago, the bottom dropped out and the most important dimension of these highways has been their depth. The weather conditions in 1913 and 1914 were favorable for the maintenance of earth roads and many Kansans had begun to think that properly graded earth roads would answer any purpose.

"It is now clearly evident, however, that if these main roads radiating from market centers and connecting cities, are to be maintained in the eastern part of the state as 365-day highways, it will be necessary to surround them with more permanent materials than puddled earth.

GOOD ROADS ARE ESSENTIAL

"Eastern Kansas is especially adapted to general farming and dairying, and a system of first class highways leading to the market centers is one of the first essentials in the successful carrying out of this type of farming.

"The kind of road to construct in any locality depends essentially upon two things; namely, the kind of surfacing material available in that community and the kind and amount of traffic for which the road is being built.

"The type of road for a locality should be chosen by an expert engineer, while the construction of the road should be placed under the supervision of a corps of expert engineers who have been given the power to get results."

COLLEGE MEN ON STATE AGRICULTURAL PROGRAM

Annual Board Meeting to be Held in Topeka Next Week—Practical Subjects Will Be Up

Professors in the Kansas State Agricultural college will have prominent parts on the program of the annual meeting of the state board of agriculture in Topeka next week. The sessions will take place Wednesday, Thursday, and Friday, January 12, 13, and 14.

The program for the meeting follows:

WEDNESDAY EVENING

Address of Welcome—Governor Arthur Capper.

Address of Welcome on Behalf of Topeka—Mayor Jay E. House.

Response—President George B. Ross.

"The Business End of Farming"—Carl Vrooman, assistant secretary United States department of agriculture, Washington, D. C.

THURSDAY MORNING

"The Horse Still a Staple Product"—Dr. C. W. McCampbell, secretary state live stock registry board, Manhattan.

"Building Up Our Breeding Herds"—Robert H. Hazlett, El Dorado.

"Live Stock Marketing Problems"—John A. Edwards, Eureka.

"Baby Beef"—E. L. Barrier, Eureka.

THURSDAY AFTERNOON

"Rural Credits"—P. W. Goebel,

president Commercial National bank and vice-president American Bankers' association, Kansas City, Mo.

"The Twentieth Century Banker and Farmer"—Theo. C. Mueller, president German-American State bank, Topeka.

"Cooperation That Works"—J. W. Shorthill, secretary Nebraska Farmers' Cooperative Grain and Live Stock State association, York.

"On Behalf of Better Roads"—D. Ward King, Maitland, Mo.

THURSDAY EVENING

Music—Washburn College Glee club, Topeka.

"A Message From the South"—Mrs. G. H. Mathis, Birmingham, Ala.

Music—Washburn College Glee club, Topeka.

"The Modern Traction Engine" (illustrated by moving pictures)—A. A. Potter, dean division of engineering and professor of steam and gas engineering, Kansas State Agricultural college, Manhattan.

FRIDAY MORNING

"What Can Be Done This Winter to Prevent the Hessian Fly?"—George A. Dean, entomologist, Kansas State Agricultural college and experiment station, Manhattan.

"How Can We Increase the Yield of Wheat?"—W. M. Jardine, director Kansas Experiment station, Manhattan.

Ten-minute Corn Talks by Practical Corn Growers—Leroy Ayers, Allen county, southeastern Kansas; John S. Ellenbecker, Marshall county, northeastern Kansas; M. C. Hinman, Reno county, south central Kansas; John R. Chittenden, Ellis county, western Kansas.

FRIDAY AFTERNOON

Election of Officers and Members.

"What of the Hog Business?"—A. J. Lovejoy, Roscoe, Ill.

Query Box.

Installation of the New Board and Officers, at the Secretary's Office.

FRIDAY EVENING

Song—Arthur E. Wesbrook, director department of music, Kansas State Agricultural college, Manhattan.

"Possibilities of the Rural School"—Mrs. Jessie Wright Whitcomb, Topeka.

Song—Prof. Arthur E. Wesbrook.

"The International Institute of Agriculture; Its Origin and Aims"—Charles F. Scott, Iola.

EVERY GIRL SHOULD DEVELOP GOOD TASTE

Individuality, Simplicity, and Quality of Material Must Be Considered if One Is to be Well Dressed

Individuality, simplicity, and quality of material are elements that must be considered by the girl who aspires to be well dressed in the judgment of Miss Florence Hunt, assistant in domestic art in the Kansas State Agricultural college.

"Too much stress cannot be placed on the importance of developing good taste," says Miss Hunt. "Good taste includes knowledge of color, line, form, material, and suitability to the occasions upon which the dress is worn. Dresses for school, business, or street wear or for dress affairs should, of course, be distinctive.

"Then the costume must be suited to the individual according to line and form. A tall person cannot wear the same style as the short person. The same principles apply also to materials used.

"The study of color harmony is made practical by combining samples of materials and designing appropriate costumes. There are materials which will not combine well and colors that should not be used together.

"Another problem is the study of the design principles—the relation of rhythm, balance, and harmony to dress. The greatest effort is made to impress upon girls studying costume designing in the college, the value of simplicity, good quality, and less decoration. The girls are given instruction in how to dress to suit their own eyes, hair, and complexion."

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GO AFTER BUNNY NOW

RABBITS ARE TOO FOND OF YOUNG APPLE BARK

D. E. Lewis Tells of Methods for Preventing Girdling of Trees—Bridge Grafting a Possibility When Animal Has Got in its Work

Bunny likes the bark of young apple trees, but the average Kansas farmer doesn't appreciate Bunny's tastes.

"One of the emergency ways of preventing girdling," says D. E. Lewis, assistant professor of horticulture in the Kansas State Agricultural college, "is to kill a few rabbits, skin them, and rub the trunks of the trees with the flesh. Other rabbits usually will let the trees alone for some time after this, as they greatly dislike the odor left on the bark."

Another method pointed out by Mr. Lewis for saving the trees is to paint them with a concentrated solution of lime and sulphur. When the tree is headed high, it should be painted up as far as the first limb; if headed low, the first limbs should be included. This, except when heavy snow is on the ground, is usually high enough to prevent damage from rabbits. Arsenate of lead and a thick lime mixture such as Bordeaux mixture may also be used with good results. Soft soap, creosote, and sour milk, and similar solutions are sometimes applied in the same way, but are inferior to lime and sulphur for the purpose.

WRAP TREES WITH WIRE

One of the best ways to safeguard the trees, according to Professor Lewis, is to wrap them with screen wire as soon as they are set out. If this is done, a space of one inch should be left between the wire and the tree. To prevent injuries to the tree and also to guard against borers, cotton is often stuffed in at the top between the wire and the tree.

"Very frequently," says this expert, "a farmer uses corn stalks, grass, tar paper, veneer board and other materials in wrapping his fruit trees. This method of wrapping, so far as preventing injury from rabbits is concerned, is nearly as good as screen wire. Every spring, however, it is necessary to remove the wrappings. This requires a great deal of labor and in the long run is probably more expensive than the screen wire wrapping."

"If a rabbit finally succeeds in girdling a tree, bridge grafting should be performed. Take some twigs of the same variety as the injured tree, wedge them at either end and insert them beneath the bark above and below the wound. In case the graft fails, as a last resort, the tree should be cut off below the region of girdling and a new shoot allowed to grow. Care should be taken that the sucker does not spring from a point below the original graft."

ROBINS MEETINGS WILL BRING LASTING RESULTS

Officers of Local Christian Associations Commend College Campaign—Total Attendance Was 12,000

The religious and social service campaign conducted at the college by Raymond Robins of Chicago and co-workers was thoroughly successful, according to officers of the Young Men's and Young Women's Christian associations. They anticipate lasting results from the meetings.

The total attendance at the meetings was 12,000. The number of men's meetings held was six, and the total attendance was 4,575. The number of men's committee meetings held was six, and the attendance was 500. The number of joint mixed meetings held was three, and the attendance was 4,000. One faculty meeting was held,

with an attendance of 100. The number of women's meetings held was five, and the attendance was 2,000.

At the Manhattan high school two chapel meetings, with an attendance of 500, were held. There were two meetings for boys, at which the attendance was 250, and a meeting for girls, at which the attendance was 100.

FRUIT PRIZE GOES TO WESTERN KANSAS MAN

J. G. Stutz, General Science Student, Raises Apples, Plums, and Cherries in Ness County

That western Kansas can grow good fruit was demonstrated in Farm and Home week when the prize for the best plate of apples went to J. G. Stutz of Utica.

Mr. Stutz, who is enrolled in the general science course in the Kansas State Agricultural college, says the apples were grown on three acres of land which yielded between 250 and 300 bushels. One dollar a bushel was the average price at which the apples sold.

The orchard was not sprayed. The Utica country is new enough so that diseases have not yet become very damaging and spraying, except for diseases of the wood, is not essential, as it is in most fruit growing regions.

It was found profitable in the Stutz orchard to raise garden vegetables, sweet potatoes, and watermelons between the rows.

The following varieties of apples are grown in this orchard: Ralls Genet (regular bearing), Rome, Gano, Romanite, Ben Davis (not bearing well), Red Hyslop crab (these bring \$2 a bushel), Minkler, Bismarck (prize apple variety), Missouri Pippin (doing well), winesap, maiden blush (regular bearing), Cooper early white. Blue damson plums also do well. Cherries have had good yields, Mr. Stutz reports, as have also peaches. The latter, however, are troubled somewhat by borers.

AROUSES CHILDREN TO CHANCES FOR SERVICE

Junior Extension Department Reaches Farmers Through Work Among Boys and Girls

Arousing the latent forces of service that lie hidden in every child, the junior extension department of the Kansas State Agricultural college, under the leadership of Otis E. Hall, is transforming the old passive sections of the state into vitally concerned communities.

"We work through the children," says Mr. Hall. "We give them the best that we think we have and show them the most economical way of growing farm produce. We teach them to watch market fluctuation and show them the best methods and means for accomplishing things that they undertake."

"Through natural methods we are convincing the farmers of the advantages and the joys of doing things through systems that have been put to the test and have not been found wanting. We are changing whole communities.

"The farmers themselves are often slow in adopting our recommendations but they readily allow their children to come into the boys' and girls' clubs and work with us. The children sign a pledge to work according to instruction. We send to them all the necessary details of the college plan."

"The result of this work is wonderful. In one case a boy fed a pig under our supervision and at the end of the contest it weighed 308 pounds, while his father's pig from the same litter weighed but 193 pounds. Such striking results boost our work and every year the obstacles are disappearing."

PUT UP ICE TOGETHER

KANSAS FARMERS SHOULD CO-OPERATE IN WINTER TASK

F. A. Wirt Tells How to Pack and House Product—Average Family Uses Four or Five Tons a Season—Make Building of Right Size

Cooperation among Kansas farmers for the purpose of putting up ice for home consumption is advocated by F. A. Wirt, instructor in farm machinery in the Kansas State Agricultural college.

Several principles are involved in keeping ice. There should be good underdrainage to carry off water as the ice melts, for water is a conductor of heat. Water melts ice much faster than does air. Perfect ventilation above the ice is required to keep the covering of the insulating material as dry as possible. If wet, the covering forms a conductor of heat.

Ice must be well packed to prevent the circulation of air between the ice cakes. Good insulation at sides and bottom must be provided.

CYPRESS IS ROT-RESISTANT

An ice house 14 feet long, 12 feet wide, and 10 feet high from ground to eaves is of good size for the average farm. Materials that may be used are stone, brick, concrete, or wood. Wood is better in many ways although it has one objection—the tendency to rot. Cypress is a rot-resisting wood. Concrete is good for the foundation and should extend below the frost line and from 1 to 1½ feet above the ground level so the sills will always be dry.

"Unless the soil is well drained," said Mr. Wirt, "some artificial method is necessary. Tiling or ditches filled with rocks or broken brick will do. It is well to spread a layer of small rocks or clinkers or similar material over the floor. A layer of straw should come next, although sawdust is often used instead.

DOUBLE WALLS DESIRABLE

"The walls may be either single or double. Single walls of matched boards covered with paper on the outside are good. Double walls are much better, however, on account of the better insulation.

"In building the double-walled house the paper is put on the two by four uprights with boards on both sides. This leaves a four inch dead air space and if this air space is partitioned every three or four feet with a strip of tarred paper the insulation will be even better because there will be no up and down circulation. Sawdust is often used for filling this air space.

"The roof may be almost anything that will turn water, keep off the sun, and provide ventilation. To insure the last, small doors near the top at both ends will suffice for the small ice house. If these doors are left open occasionally on dry days, the resulting air currents will aid in the removal of the warm, moisture-laden air."

TO MAKE ICE KEEP

Place the first layer on edge and the others in a horizontal position, is the advice given by Mr. Wirt relative to packing. Every third layer—regardless of how packed—should be placed so that the divisions will not coincide with those in adjacent layers. Pack the ice to within eight or 10 inches of the walls. Space left should be filled with sawdust, if obtainable, although straw will do.

Each cake should be left about an inch from its neighbor on either side and a top layer, eight to 12 inches deep, of sawdust or straw should be placed over the top.

The ice house described is almost entirely above ground but there is another type partly above and partly below ground and still another that is almost entirely below ground, says this expert. As a rule, the first type can be more easily and economically built. A ton of ice occupies approxi-

mately from 35 to 40 cubic feet, and four or five tons is usually all a single family will use in a season. Where the cost of ice is small, a cheaper shed can be used with a relatively high loss of ice from melting. If, on the other hand, the cost of ice is high, it is better to build a more expensive shed, for the loss from melting will thus be lessened.

LARDNER'S HEADQUARTERS WILL BE IN CAPITAL CITY

Financial Secretary to Move to New Offices in Statehouse—Branch Will Be Maintained at College

James T. Lardner, financial secretary for the board of administration and purchasing agent for the institutions under the supervision of the board, will move to Topeka late this month and will thereafter make his headquarters in the capital city.

It was originally intended that the financial secretary should have his office in the statehouse so as to be near the other state officers. Until the present time, however, room has not been available in the statehouse, and the office has been at the agricultural college.

A branch office will be maintained at the college, as at each of the other state institutions, and will employ two or three clerks.

Mr. Lardner has held his present position for two years and a half. He is a former student of the Kansas State Normal school and was for some years engaged in banking in Kansas.

MATTSON IS HOME FROM DRY FARMING IN SOUTH AMERICA

Former College Student Reported to Railways About Agricultural Possibilities

Ivar Mattson, a former student in the college, has returned from Argentina, South America, where for seven months he was employed by the Central Argentine railroad as a dry farming expert.

Mr. Mattson outlined dry farming projects and began experimental work on the company farm at Tucumun, which, when completed, will mean much to the agricultural interests of South America. At the close of his work he submitted a report to the railroad on the agricultural possibilities of the region, particularly with relation to dry farming.

JOURNALISM STUDENTS GET PRACTICAL NEWSPAPER JOBS

Manhattan Daily Employ Five College Men and Women

Five students in industrial journalism are working this term on Manhattan daily newspapers. Ralph H. Heppe of Burlington, Iowa, B. B. Brewer of Manhattan, and Miss Edith Updegraff of Topeka are on the staff of the Mercury. V. E. Bundy of Farmington, N. M., and Miss Hazel L. Beck of Manhattan are employed by the Nationalist. J. M. Boring of Spring Hill, editor in chief of the Kansas State Collegian, the student newspaper, is a journalism student, as are also D. P. Ricord of Esbon, the business manager, Miss Annette Perry of Manhattan, the society editor, and many of the other members of the staff.

FROM SHAKESPEARE DOPE TO PIGS AND CHICKENS

English Instructor Resigns to Manage Estate Left by Grandfather

Homer Hall, instructor in the English language in the college, has resigned his position to take charge of the estate of his grandfather near Belvidere, Ill. The estate includes a large farm which Mr. Hall will manage.

Mr. Hall is a graduate of the Northern Illinois State Normal school and holds bachelor's and master's degrees from the University of Illinois. He taught in the college here a year and a half, and was successful and popular.

WILL WRITE FOR STATE

SEARSON TO PREPARE READERS FOR CHILDREN OF KANSAS

School Book Commission Adopts "Studies in Reading" as Thus Far Published and Employs College Expert to Complete Series

J. W. Searson, professor of the English language in the Kansas State Agricultural college and a well known educational expert, will be author of the readers to be used in the Kansas public schools. The state school book commission this week purchased copyrights and plates of the third, fourth, and fifth volumes of "Studies in Reading," already prepared by Professor Searson and George E. Martin, professor of English in the Nebraska State Normal school at Kearney, and employed Professor Searson to prepare a first and a second reader.

The contract for the purchase of plates is made with the University Publishing company, which has published the readers and owns the copyright. They will be printed by the state printing plant, as will also the more elementary books to be prepared by Professor Searson. A total of 400,000 readers will be used in the schools during the coming school year. These will cost the school children, according to W. R. Smith, state printer, \$30,000 less than the present reader prices.

WILL STUDY LATEST MOVEMENTS

It was at first suggested by Mr. Smith, T. A. McNeal, and George B. Ross that the commission prepare an entire set of readers, and thus endeavor to cut down the royalty. In view of the limited time available, however, the commission voted to purchase plates for the three books already published and ask the board of administration to give Professor Searson leave of absence, without pay, to complete the lower books in collaboration with some authority in primary pedagogy.

It is expected that Professor Searson will stay at the college through the winter term. He plans, however, to devote his spare time, free of charge, to the preparation of the readers. He will be relieved of his academic duties at the opening of the spring term, when college work is lighter than in the winter, and will spend some months in Boston and New York studying the latest educational movements in the elementary grades.

READERS IN EXTENSIVE USE

The commission will pay Professor Searson \$2,500 for the manuscript of each book, approximating, after the deduction of necessary expenses, his present salary. It is estimated that it will cost less than \$5,000 apiece to prepare the books to be put on the press as against \$6,000 spent on the primer now in use.

Two volumes of the Searson and Martin series of readers are being used at present in the Kansas schools. They are the basic reading texts also in Idaho, Tennessee, Utah, Nevada, and New Mexico, and the supplemental texts in Montana and Georgia. In addition, the readers are used in about 200 counties in middle western states which do not have state adoption. They are also in use in more than 1,000 cities.

Educators have highly commended the readers both for the material they contain and for the way in which it is adapted to successful teaching. The plan of study used in these text books was unique at the time of their preparation. The one criticism ever made against the readers—that they were perhaps slightly too difficult for some schools—has been overcome by revisions which have been tried out with marked success in several school systems in the state.

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N. A. CRAWFORD.....Managing Editor
J. D. WALTERS.....Local Editor

Except for contributions from officers of the college and members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism. The mechanical work is done by the department of printing. Of these departments Prof. N. A. Crawford is head.

Newspapers and other publications are invited to use the contents of the paper freely without credit.

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SATURDAY, JANUARY 15, 1916

A court in Prussia has decided that it is a public duty to read a newspaper. Many a publisher will be pleased if American courts will accept this decision as a precedent.

Several boys were badly hurt through hazing in one of the San Francisco high schools, whereupon the superintendent rises to make the pertinent comment that boys must be prevented from calling each other "Mr."

At the suggestion of motion picture show operators and owners, "movies" have been forbidden in Chicago schools and churches. This is a gratifying rebuke to the radicals who hold that education and religion possess any rights where business interests are involved.

THE COLLEGE WILL MISS HIM

Mr. James T. Lardner, who leaves the institution shortly to make his headquarters and home in Topeka, will be missed by both faculty members and students. It is seldom that a man connected with an institution exclusively as a business officer builds for himself so large a place in the respect and friendship of teachers and students as Mr. Lardner has done.

The reason for Mr. Lardner's popularity in the institution is not only his efficient service but his attractive, friendly personality and his constant willingness to be of service in any way possible to any person connected with the institution. He is a consistent example of the effectiveness of courtesy and accommodation in the transaction of business.

All the people of the college trust that Mr. Lardner's work in his new headquarters at Topeka will be increasingly successful and pleasant.

A PRACTICAL SURVEY

The large user of advertising space no longer places his advertising merely with papers having a large circulation. He considers not only the size of the circulation but its distribution, its tastes, and its buying power. This has meant the adoption of the circulation analysis by all large newspapers and magazines.

There are analyses and analyses, but no circulation survey that has come to the writer's attention combines more successfully well selected data and convenience in use than the survey of Trenton, N. J., made by Mr. Owen Moon, Jr., business manager of the Trenton Evening Times. When you get through looking over this survey, you know not only Mr. Moon's paper but Mr. Moon's city. You know what manufacturing industries are represented in Trenton; what is the educational situation; what is the city's attitude toward moral and religious matters; what clubs and societies are represented; how many wholesale grocers, retail grocers, meat markets, bakeries, fruit dealers, hotels, and other business houses are situated in Trenton; to what extent the merchants of the city coöperate with the newspapers in the promotion of nationally advertised goods. The newspaper situation in the city is carefully discussed, and newspaper advertising is compared with other kinds of advertising. Special features of the Times, which show,

probably better than any figures would do, the kind of readers the paper attracts, are reproduced in the survey.

The handling of the material is much facilitated by its consisting of loose sheets placed in a heavy file folder. This also permits the addition of sheets from time to time.

The preparation of this elaborate survey, containing nearly 100 printed pages, by one of the most up-to-date papers of the United States, offers a suggestion to newspaper publishers everywhere. Not every paper can prepare so extensive a publication. Every paper, however, can do something, individually or by coöperation with other papers, to present its claims to large advertisers.

ELIMINATING A CAUSE OF WAR

If warfare is hereafter to be prevented, it must be chiefly through the elimination of the causes of war. Modern warfare is due mainly to economic causes.

One may consequently view with gratification the work of the Society to Eliminate Economic Causes of War, an organization comprising in its membership many well known economists. If any propaganda is to aid in this direction, certainly the propaganda of the society mentioned seems likely to be most productive of results. The society aims to promote more uniform legislation in the various nations for the advancement of peace and commerce. One of the interesting suggestions made is the adoption of an international trade flag to bear the same relation to commerce that the red cross flag bears to hospital work. The adoption of the red cross flag was brought about through agitation on the part of a comparatively small group of persons. It has enormously mitigated the physical horrors of war. The international trade flag, which would reduce the enormous material damage caused by war and would also eliminate many of the controversies that have arisen in the present struggle, might eventually be adopted through the efforts of an earnest group of careful students such as are contained in the Society to Eliminate Economic Causes of War.

STORING VEGETABLES

You remember the old-fashioned cellar, of course? Perhaps you even remember the odor of fresh fruits and vegetables that thrilled you as you entered it? The pungent turnips, the flavorful apples, the earthy potatoes, the carrots and cabbages and parsnips, and the keg of cider over in the corner! You remember these things of course, and, maybe, regret their passing from sentimental reasons.

But have you stopped to think that it was not until the passing of the old-fashioned cellar that we began complaining of the high cost of living? In your efforts to solve the problem of the daily food have you associated the present high prices with the heated basement, and with the little basket of potatoes out on the back porch? There is a direct connection, if you please.

Our modern houses do not have a "cold room" in the basement to take the place of the cellar. The furnace is generally in the center of the place, with its heat fatal to vegetables of all kinds, stored in any portion of the basement. The refrigerator is necessarily small; it is not intended for the storing of any considerable amount of foodstuffs. It is typical of modern life, is the refrigerator—a thing to help us from day to day and not from season to season. We do not know why the architects have never thought of building "cold rooms" in the basements, especially since they could be so cheaply constructed.

Last fall apples could have been bought for a dollar a barrel. Potatoes were cheap. Turnips were almost given away. All sorts of vegetables, in quantities, could have been secured very reasonably. But there was no place about the house to store them. We had to buy only what we could use from day to day. Now we are paying a pretty price because of the passing of the old-fashioned cellar. And we find fault with the "times" instead of

WASTE

Never since the first settlement of these United States has there been a people so wasteful in their business processes as our own. And this waste has been common to agriculture, manufactures, finance. We have apparently acted upon the assumption that our bank of natural resources could not be broken, that our cow gave only cream.

But we have had some rude shocks, resulting from which we are learning

in the industries above mentioned has been enormous, running into hundreds of millions annually.

Our imperfect combustion of coal is another illustration.

So far, in our economic life we have progressed by reason of strength alone, but hereafter we must add to our strength wisdom, and to our wisdom that kind of thrift which will not permit waste. These be the conditions of success in the future.—The Iron Tradesman.

The Holy Earth

L. H. Bailey

So bountiful hath been the earth and so securely have we drawn from it our substance, that we have taken it all for granted as if it were only a gift, and with little care or conscious thought of the consequences of our use of it; nor have we very much considered the essential relation that we bear to it as living parts in the vast creation.

It is good to think of ourselves—of this teeming, tense, and aspiring human race—as a helpful and contributing part in the plan of a cosmos, and as participants in some far-reaching destiny. The idea of responsibility is much asserted of late, but we relate it mostly to the attitude of persons in the realm of conventional conduct, which we have come to regard as very exclusively the realm of morals; and we have established certain formalities that satisfy the conscience. But there is some deeper relation than all this, which we must recognize and the consequences of which we must practice. There is a director and more personal obligation than that which expends itself in loyalty to the manifold organizations and social requirements of the present day. There is a more fundamental coöperation in the scheme of things than that which deals with the proprieties or which centres about the selfishness too often expressed in the salvation of one's soul.

We can be only onlookers on that part of the cosmos that we call the far heavens, but it is possible to coöperate in the processes on the surface of the sphere. This coöperation may be conscious and definite, and also useful to the earth; that is, it may be real. What means this contact with our natural situation, this relationship to the earth to which we are born, and what signify this new exploration and conquest of the planet and these accumulating prophecies of science? Does the motherhood of the earth have any real meaning to us?

that our bank has not unlimited resources, that our cow's cream is but a small part of the total milk output.

The successful business men of the future will be those who have most fully grasped these cardinal truths, and will in their management eliminate waste.

As illustrating this wasteful side of our economic life read the substance of three little stories, one appearing in the Gulfport (Miss.) paper, another in the Chicago Herald, and the third in one of the Birmingham papers.

The first story recites that on December 20 the Wood Reduction company would begin operations at Hattiesburg, Miss., that it would consume 50 to 60 cords of wood per day, which will produce 17 gallons of turpentine per cord, and as soon as additional machinery is installed will produce in addition to the turpentine, rosin, pine oil and other commercial products. Bear in mind that the wood consumed has heretofore been left on the ground to rot after the mill timber was logged off.

The Chicago story recites that the National Lumber Manufacturers' association, of Chicago, on December 13 appealed to the federal trade commission for assistance in preventing waste and preserving the life of the lumber industry. One of the members, L. C. Boyle of Kansas City, spoke for the association, and the fact was developed that only 35 per cent of the cubic contents of the tree is applied to use. Think of that. Sixty-five per cent of waste.

Birmingham papers have had frequent mention of late of the production of by-products of coal in that district. Among the by-products of coal are benzol, phenol, coal tar (from which we get our aniline dyes) and other things valuable in a medical or manufacturing way. We now know that there is a valuable land fertilizer in the slag from iron furnaces.

Up to a very recent date the waste

A QUARTER CENTURY AGO

Items from the Industrialist of January 17, 1891

D. W. Working, '89, has named a department of the Colorado Farmer "The Gleaner" in honor, presumably, of the Alpha Beta society paper of that name, of which he is an ardent admirer.

D. G. Robertson, '86, was defeated by the Alliance candidate for clerk of the district court of Osborne county. Isn't it probable that the interest he once took in politics is now transferred to the son that arrived at his home in December?

The printing department has just printed half-sheet posters for farmers' institutes to be held at Marysville, McPherson, Peabody, Hiawatha, Stockton, and Wabaunsee, in the order named. These posters take the place of the program hitherto furnished by the college, and it is thought they will give wider publicity to the announcements than did the smaller bills.

An Ann Arbor (Michigan) paper has this concerning a member of the class of '88 in its university notes: "N. E. Lewis, lit, '92, has accepted a position as chief draftsman in a large tool-manufacturing establishment at Hamilton, Ohio, and will leave this evening for the scene of his employment. It is the intention of Mr. Lewis to be absent from the university until next fall, when he will return and join his class.

The fifth division of the senior class presented orations in chapel yesterday afternoon as follows: "Effects of Party Strife," J. O. Morse; "Woman as a Writer," Nellie McDonald; "Country Life," Louie Reed; "The Conqueror of Peru," H. V. Rudy; "Woman as a Citizen," Lottie Short; "The True Position of Agriculture," A. J. Rudy; "Over-Education," Lillian A. St. John; "Development of Character by Exercise of Self-Control," Carrie Stingley; "Poverty Against Emigration," Ben Skinner.

IN THE CHINA SHOP

Cora A. Matson Dolson in the Washington Courier

A little shop, with china on the shelves: Mother and daughter there lived by themselves.

The mother's eyes, deep grey, with soft brown lights, Haunted and led me to halt here o' nights To smell the fragrance floating through the room, Of the dwarf orange all year round in bloom.

In a brown jar by window front it stood;

Ripe golden fruit shown, as in welcoming mood,

And the clean china, delicate and new, Pink-sprayed, gold-banded, and old-fashioned blue,

Cup, saucer, small quaint pitcher, platter, plate, Deftly arranged, would here for buyer wait.

Now those grey eyes, brown-shaded, seek me out, As from the doorway they would bid me rout,

And the small daughter's hand holds out to me, Rich flecked with cream, a cup of steaming tea,

Lest I the magic of the circle miss. I ask the price of that small piece or this

Of pretty china. If those grey eyes knew

I've not a soul to give the china to! But in my wardrobe, hid from prying sight,

There's many a piece bought here before tonight; For those eyes will not let me keep away

From this temptation at the close of day. She lifts the pitcher that the light may gleam

Through its thin texture: "Just the size for cream,"

In soft tones, modulated evenly, "The size," she says, "just the right size for three."

"Your daughter," mused I; "you a widow, too!"

The eyes grew dark, as grey eyes sometimes do,

"My daughter, yes, we two are quite alone."

"And I a bachelor, and lonely grown!"

What matters when or where what else was said,

We are one household now, and I its head.

And she, the mother, sits across from me,

And the small pitcher holds the cream for three!"

SUNFLOWERS

The prophets who have been promising us an open winter will be gratified to note that it is now wide open.

HE DOES HANG AROUND

After an absence of several weeks we have with us again our old friend, the Mexican situation.

LEAVING IT TO MUSICAL COMEDY

It has reached the point now where no reputable newspaper or magazine will print a joke about the length of women's skirts.

FRANKNESS IN ADVERTISING

Realizing that the growth and success of our business depends upon the growth and prosperity of Manhattan, we wish for Manhattan and Manhattan people, our friends and patrons, a prosperous New Year.—New Year wish of the Manhattan Ice, Light, and Power company in local newspapers.

IT'S A BROAD SUBJECT

People who are interested in knowing just what is meant by the term "physical culture" will be relieved considerably by noting the front cover of Physical Culture for January. The said cover promises information on the following:

Motherhood.

Marriage.

Health.

Efficiency.

Fiction.

Drama.

Facts.

AMONG THE ALUMNI

Earl J. Willis, '14, is teaching in the Indian school at Nuyaka, Okla.

Miss Elma Sage Jones, '13, of Barret has registered for special work in education.

Miss Lois Katherine Stewart, '15, is teaching in a mission school in Los Angeles, Cal.

Frank D. McClure, '11, is teaching agriculture in Broaddus institute, Philippi, W. Va.

Miss Dora M. Otto, '11, of Riley is taking graduate work in the division of home economics.

Dr. M. Edwin McDonald, '12, of St. Joseph, Mo., will take graduate work in the college this term.

R. H. Van Scoik, '14, has organized a high school of agriculture and home making at King Ferry, N. Y.

Ray Anderson, '11, who is studying theology in Chicago, was in Manhattan recently for a brief visit.

Fred H. Loomis, '13, is cereal chemist for the Wichita Mill and Elevator company, Wichita Falls, Tex.

Miss Lola Brethour, '13, is enrolled in graduate work in the college. She spent the past two years in teaching.

Miss Leaffa Randall, '09, is attending Columbia university. She is living at 520 West 122nd street, New York.

L. A. Richards, '15, has been promoted to the office of sergeant major of the First battalion, First regiment, Kansas National guard.

Miss Carrie Gates, '11, who is teaching in Idaho, returned to her home in Asherville to attend the wedding of her brother, Ward Gates.

Ray L. Graves, '12, is head of the animal husbandry and dairy department of the Connors State School of Agriculture at Warner, Okla.

Miss Katherine Curless, a former student who spent the past three years in teaching, has re-entered college and will take her degree in the spring.

Edmund C. Magill, '12, has returned to his work in Wayzata, Minn., after a short visit at the college. He is teaching agriculture in the high school.

Mr. and Mrs. C. J. Doryland, '08, were visiting on the hill last week. Mr. Doryland is instructor in the North Dakota Agricultural college at Fargo.

Erle H. Smith, '15, is on the staff of the Kansas City Journal and has charge of the work on the Kansas side, where he is turning out some excellent copy.

J. Gordon Auld, '14, of Wichita Falls was a guest at the Sigma Alpha Epsilon house for a few days, on his way to Nebraska, where he will be located this year.

Miss Bertha S. Kimball, '90, teacher of the Rocky Ford school, visited during vacation with fourth-year students, Frank and Fanny Waugh, at their home near McPherson.

E. L. Platt, who was a student in the college in 1891-'92, has been elected president of the Commerce club of St. Joseph, Mo. Mr. Platt is a son of Professor Platt, who was for a number of years on the college faculty.

A. L. Kahl, '11, and Mrs. Goldie (Eagles) Kahl, '11, are living in Boise, Ida., where Mr. Kahl is office engineer for the Idaho State Highway commission. They express the wish to meet any of the college people who are passing through Boise.

A. F. Yeager, '12, helped manage the recent horticultural show at the Oregon Agricultural college at Corvallis. The exhibits were regarded as a great success. Albert Dickens, professor of horticulture in the Kansas State Agricultural college, contributed some persimmons to the show.

Helen B. Thompson, '03, is head of the department of dietetics in the Connecticut College for Women at New London, Conn. She writes: "I never dreamed of deserting coeducation but it just happened. I am doing some work at Yale each week as we are only an hour from New Haven and my teaching is light enough to give me time for it."

R. R. Graves, '09, who is on the staff of the Oregon Agricultural college at Corvallis, writes in commendation of the movement inaugurated by the alumni association for better support of the state institutions. He and his wife, Mrs. Grace (Smith) Graves, '08, each send the assessment levied by the association.

Miss Sophia Maelzer, '14, who is teaching home economics in the Mackay (Idaho) high school, sends the assessment levied by the alumni association and expresses her wish for the organization's success. Her brother, Valentine Maelzer, '97, is engaged in stock raising at Goldburg, 60 miles from Mackay, while a younger brother is now living in Mackay.

A recent number of the *Rural Spirit*, published at Portland, Ore., devotes special attention to I. D. Graham, the newly appointed editor of the publication. Mr. Graham was for a number of years secretary of the Kansas State Agricultural college and later was on the staff of the *Kansas Farmer*. The *Rural Spirit* is one of the oldest papers in the northwest, having been founded in the early sixties.

MARRIAGES

ROBERTS-HAWKINS

Miss Georgia Roberts, '15, and Mr. Ralph Hawkins, '14, were married at the home of the bride's parents near Morrill Wednesday evening, December 29. Miss Alta Roberts, '14, sister of the bride, was maid of honor. Mr. Floyd Hawkins, brother of the bridegroom, acted as best man. Miss Marjorie Crichton, formerly a student here; Miss Amy Lamberson and Miss Alice Hawkins, now students here; and Miss Ethel Hawkes, cousin of the bride, were bridesmaids.

Mr. and Mrs. Hawkins will be at home after February 1, on their farm near Marysville.

SAVAGE-KNAUS

Miss Amy Inez Savage, '14, and Mr. Karl Knaus, '14, were married at the home of the bride's parents, Mr. and Mrs. James Savage, at Miltonvale, November 25. Mr. and Mrs. Knaus are at home at Benedict.

DEATHS

MADGE KAY

Miss Madge Kay, formerly instructor in mathematics in the Kansas State Agricultural college, died on Sunday, January 2, at the home of her father in Broken Bow, Nebr. At the time of her death Miss Kay was head of the department of mathematics in the College of St. Catherine, St. Paul, Minn. She was a graduate of the University of Chicago, where she had also done considerable advanced work. She was a close student of mathematics and was also deeply interested in the fine arts.

BIRTHS

Born, to Mr. and Mrs. James R. Coxen, '07, of San Marcos, Tex., on January 2, a son, James Thomas.

FIRE DRIVES FRATERNITY BOYS INTO CHILLY WORLD

Sigma Alpha Epsilon Chapter Flees Home at 4 O'clock in Morning

The Sigma Alpha Epsilon fraternity boys were driven out of their chapter house at 714 Poyntz avenue by fire at 4 o'clock Monday morning. Damage amounted to about \$350, covered by insurance. The fire, which was in the walls of the house, started Sunday morning but was believed to have been entirely extinguished at that time.

AGGIES PILE UP HIGH SCORE IN FAST BASKETBALL CONTEST

Defeat Kansas Wesleyan University 59 to 24 on Local Court

The Kansas Aggies won from Kansas Wesleyan university by a score of 59 to 24 in a fast basketball game Monday evening. The Aggies were ahead throughout the game. The game was played in Nichols gymnasium.

THE HORSE WILL STAY

TRACTION ENGINE WILL NOT WHOLLY SUPPLANT ANIMAL POWER

Dean A. A. Potter Tells State Board of Agriculture of Economical Use of Machinery on Farm—Standardization is Now in Progress

The traction engine will replace many of the horses on the farm of the future, but it probably will never replace them all, according to A. A. Potter, dean of engineering in the Kansas State Agricultural college. Dean Potter addressed the state board of agriculture at Topeka Thursday evening on "The Traction Engine Problem." His address was illustrated with attractive motion pictures.

Dean Potter traced briefly the history of agriculture in the United States and the growth of conditions leading to the application of large scale production methods. Modern farming, he pointed out, is to a considerable extent an engineering problem, "which offers an excellent field and market for engineering ability and for machinery developed and built."

"About 75 manufacturers," said Dean Potter, "are building traction engines in the United States. The designs differ greatly. Some have engines with horizontal cylinders, others with vertical cylinders. In some cases the power of the engine is given to one wheel, in others to two, while still others pull with all four wheels. Several makes are of the so-called 'creeping grip' types.

BEST MAKES ARE SIMILAR

"The diversity of styles is very great, but after all, a careful examination will reveal the fact that the best makes of traction engines are very similar. In fact, the whole traction engine industry is undergoing a standardization process. Freak designs are being weeded out and only types in accordance with the best mechanical engineering practice are retained. Before long the standard type of traction engine will be available, and, like the standard type of automobile, will give satisfaction in every detail.

"Low first cost of any machine should not be made the dominant feature. A high grade traction engine must be the product of the best engineering talent, which means brains and money, and this must be included in the price of the machine.

"The backing of a company whose financial standing is an assurance that the company will remain in business for many years is an important consideration. Expert service and repair parts may be needed at any time. A high grade manufacturing company is usually careful about maintaining its reputation and will see to it that it delivers the goods.

ANALYZE WORK ON FARM

"Before making up his mind to purchase a traction engine, the farmer must analyze carefully his farm and the work of the traction engine.

"In analyzing the farmer must decide whether he can plan his work so as to keep the traction engine busy. The average person spends too much time in working and too little time in planning his work. Can the farmer lay out the work of his farm so that the traction engine can be used for belt work and for hauling as well as for field work?

"Proper tillage is a very important factor in farming, if good crops and big crops are expected. The traction engine will probably never entirely replace the horse, but will replace many horses on large farms, and especially in connection with the heavy farm work. The traction engine has advantages over the horse in that it is not affected by the heat, can be used for deep plowing, eliminates to a considerable extent the hired man troubles, can work continuously day and night, and can be used to advantage at all seasons of the year.

DON'T OVERLOAD AN ENGINE

"Like horses, traction engines are liable to internal disorder on account of overwork. Some farmers overload their animals and use the same prac-

tice when dealing with traction engines. They get by with it for a time, but all at once when least expected and most needed the engine breaks down. Who are blamed? The engine and its manufacturer.

"The traction engine is suited for heavy belt work, such as hay baling, corn shelling, pumping water for irrigation and for other purposes, grinding feed, ensilage cutting, sawing wood, threshing, husking, hulling, shredding, filling silos, crushing rock, and elevating grain. The traction engine can be used for hauling grain and other farm produce to the shipping point or to the market, and also for hauling fertilizer and other material to the farm.

"In connection with road work, traction engines have been utilized for pulling graders, scrapers, road plows, drags, and other road implements as well as road materials.

"A farmer who can find many uses for a traction engine and who can make use of this form of power the whole year around will find the traction engine a profitable investment."

FOR COMFORT AND CHEER FIREPLACE IS THE THING

It's the Genuine Center of Hospitality, Says Home Art Instructor—Make it Simple and Tasteful

There is no factor that adds more to the comfort and cheer of the home than the fireplace, in the opinion of Miss Araminta Holman, instructor in home art in the Kansas State Agricultural college. "It is the definite focal point for family life—the genuine center of hospitality," says Miss Holman.

"The first thing to be considered, of course, is where the fireplace shall be," continued Miss Holman. "If there can be only one, then it probably is best in the living room, since here it will be most enjoyed. The ideal location is the center of some generous wall space, so that there will be ample room for all those who gather about the hearth.

"The fireplace should be what it is intended to be—a place for a fire. In many of the fireplaces the architecture is emphasized, and the open fire is given no prominent place in the plan.

"In this as in all other things the most direct and simple construction shows the best taste. The simple way of doing a thing is the only way which shows a complete understanding of the problem.

"Materials that should be used depend upon the taste and purse of the owner as well as upon the style and material of the house itself. Brick offers endless opportunities for interest and beauty in both color and design, and may be in harmony with any color scheme."

ENGINEERS EMPLOY METHODS OF LARGE MODERN FACTORIES

Up-to-Date Production Systems Are in Use in College Shops

Modern production methods such as are used in big factories are being employed in the engineering shops in the present term. The regular engineering students act as functional foremen, route clerks, inspectors, time bosses, and other officers while the short course men are the regular workmen. A time clock is used which the men are required to punch. The purpose is to develop ability to handle work in standard time.

About 180 students are now enrolled in the engineering short courses as against 95 last year. The engineering freshman class this year shows a 10 per cent increase over 1914-'15.

WANTS NAMES OF FARMERS WHO HAVE SEED TO SELL

Agronomy Department Acts as Clearing House for Pure Product

The agronomy department in the Kansas State Agricultural college is making a special effort to procure the names of farmers throughout the state who have pure seed for sale. The department maintains a list of those who have supplies of corn, kafir, feterita, oats, milo, broom corn, cowpeas, and other seed.

Information as to where seed may be had is given to Kansas farmers upon request. Inquiries should be addressed to the agronomy department.

MOTIVE POWER IS FREE

DOCTOR McCAMPBELL SHOWS EFFECT OF EFFICIENT MANAGEMENT

Increase in Value of Horses from Breaking to Sale Pays Cost of Feed—You Can't Afford to Raise Inferior Product, Says Expert

That the average farm horse in Kansas is not a staple product and was not bred for either profit or efficiency, but that horses may be raised so as to furnish motive power free, was the assertion of Dr. C. W. McCampbell, assistant professor of animal husbandry in the Kansas State Agricultural college and secretary of the state live stock registry board, who spoke before the state board of agriculture at Topeka Thursday on "The Horse Still a Staple Product."

Statistics show that on January 1, 1915, Kansas had \$150,701,550 invested in horse stock and \$159,954,092 in cattle, swine, and sheep. The value of the average Kansas horse was, on the same date, \$110, which Doctor McCampbell pointed out, does not equal the cost of production.

"It is encouraging to note," remarked the speaker, "that certain kinds and types of horses are still staple. They are sound, good looking, bold going, easy keeping, and durable heavy horses. Such horses not only meet the demands for efficiency and economy in farming operations, but also sell high on the open market, leaving a good profit above cost of production.

MANY MISUNDERSTAND SITUATION

"I have visited farms where motive power costs absolutely nothing. Big, active horses are raised and used on these farms. They are broken to harness during the winter before they reach the age of three years and the geldings are sent to market, when they reach the age of five or six years, to make room for younger horses. The increase in value from the time they are broken until they are sold will, under ordinary conditions, pay feed bills, making the service rendered cost nothing. The motive power on many farms is the most expensive item, but on such farms one usually finds carelessness, poor management, and unsound, poorly shaped, undersized, and inefficient horses, for which there is practically no demand at any price.

"Possibly some of the indifference regarding the kind of horses that have been raised has been due to a general misunderstanding of the actual needs and demands for horses on the farm and in the city.

"Many horse raisers honestly believe that the demand for horses is almost a thing of the past, but as a matter of fact heavy horses have increased in value practically 10 per cent during the last 10 years in spite of a widespread impression to the contrary.

ARMY HORSE NOT FOR FARM

"At the present time three classes of horses are most in demand—wagon horses, chunks, and drafters—all of which are derived from draft blood.

"In the future no one can afford to raise an inferior horse, for his day is done and he is no longer a staple product. We have been fortunate in being able to dispose of several hundred thousand horses of this kind for war purposes. We should be thankful for this opportunity but must not be deceived or misled by this temporary demand, for the army type of horse is not a desirable commercial or farm horse.

"I am thoroughly convinced that, after the motive power demands of farms where horses are raised have been supplied, any surplus of high class horses of the right type will find a ready market at remunerative prices, for the work horse population of our cities is not decreasing in numbers and must be replenished each year."

Something is wrong when a horse refuses his rations. Maybe you have been letting him stand in the barn too long. Take him out and exercise him. An earned appetite is the best tonic for us all.—Farm Journal.

HERE'S A POPULAR IDEA SCIENTIST SAYS IS TRUE

CORN IS REALLY KING, DR. J. T. WILLARD TELLS LEARNED KANSAS BODY—EXCELS ALL OTHER CEREALS IN FOOD PRODUCTS—RANKS NEXT TO RICE IN TOTAL YIELD

Admitting that, unlike most popular proverbs, "Corn is King" is true, Dr. J. T. Willard, dean of general science in the Kansas State Agricultural college, last night delivered the annual public address of the Kansas Academy of Science in Topeka. His subject was "Some Nutritional Characteristics of Corn." His address was extensively illustrated.

Doctor Willard pointed out the high place occupied by corn as a world crop, its rank, he said, being just below rice in number of bushels produced. He traced briefly its modern history, explaining that its origin "is buried in the silence of millenniums in the unrecorded history of man and his environment."

Corn excels all other cereals, the speaker declared, in number and variety of food products obtainable from it. He spoke interestingly of the use of these products.

"Three-fourths of the enormous total world production of corn is harvested in this country," said Doctor Willard, "and this fact is ample basis for the saying 'Corn is King.' Corn is easily the leading cereal of this country, and no other country possesses so large an area of soil adapted to corn culture. Argentine is next to us in production, but follows at a distance. Hungary and Rumania are third and fourth in rank. The study of the nutritional value of corn is a problem commensurate in its importance with the magnitude of the world yield.

BOOZE MAKERS USE IT

"Twenty million bushels of corn are used annually in the United States in the manufacture of alcohol and alcoholic beverages, and in this connection large quantities of by-products are obtained which are used in feeding cattle, milk cows, and swine. Three million bushels of corn, rye, and barley were used by a single Peoria firm in one year in the manufacture of denatured alcohol.

"The manufacture of starch from corn is one of our great industries. This is used in part as such for food and for stiffening goods, and largely for the manufacture of a number of substances produced by the glucose factories.

"The relative rank of the principal crops of the world is of interest. There can be little doubt that rice is produced in greater quantity than any other, though statistics are not so readily available from the heavy rice producing countries as from those which produce most of the wheat, corn, barley, and oats. Taking the average production for the years 1904 to 1913 inclusive, wheat has yielded 3,487,008, 100 bushels, while the figures for corn for the same period are 3,662,229,400 bushels.

COMPARING CORN WITH WHEAT

"The greatest yield of wheat in any one year was obtained in 1913, and was 4,128,711,000 bushels. The greatest yield of corn was in 1912, when it reached 4,371,888,000 bushels. It will be noted that in the average and in the maximum corn outranks wheat if the yield be stated in bushels. Since, however, wheat weighs 60 pounds to the bushel while corn weighs only 56, the weights for wheat are somewhat larger. The yield of oats is also about the same in bushels but much less in weight, while rye and barley each furnish about one-half as much.

"One of the most noticeable nutritional features of corn is the fact that both the grain and the stalk possess definite value. This is true also of wheat, oats, and barley, but in these cases the straw is of little value. With the sorghums, to which belong not only sweet sorghum, but kafir, milo, feterita, and other grains, there is also notable value in both the grain and the stalk.

"The corn plant may be utilized in several fundamentally distinct ways which may be mentioned without detailed consideration. If the corn is planted chiefly for grain and is permitted to come to maturity and the grain is husked out, the remainder is properly designated as corn stover, although often called corn fodder.

CROP MAKES GOOD SILAGE

"Technically corn fodder is a crop produced by thicker planting, from which the ears are not removed. Such a crop is also available for conversion into excellent silage. In addition to these standard means of utilizing the stalks of corn, to a certain extent corn stover is finely shredded and converted into a product which can be conveniently stored under cover and fed to stock at better advantage in that it is consumed more completely and handled more conveniently. In utilizing the corn grain there is opportunity for still greater diversity of products than is the case with the stalks.

"There are numerous food substances which consist of one or more parts of the corn grain that have been separated by mechanical processes. Corn meal is made by removal of the hulls and most of the germs, and finer grinding. Samp, hominy, and grits are products which the body of the corn kernel in much coarser than in corn meal, but from which the hulls and germs are also absent. Numerous breakfast foods consist wholly or partly of some corn product. Corn flour is a fine starchy product obtained from corn and which may to a certain extent be mixed with wheat flour without unduly impairing the gluten producing power of the wheat flour upon which its use in making yeast bread depends.

FOR MUSH AND PANCAKES

"The proteins of corn do not, as do those of wheat, possess the power to form an adhesive glutinous mass when mixed with water, and hence cannot be leavened by yeast, or by baking powders to any great extent. The food use of corn and its products is thus restricted in some degree, but this very lack gives them a greater usefulness in certain other directions, such as in griddle cakes, puddings, and mush.

"The nature of the commercial product obtained depends on the degree of completeness to which the chemical change is carried, grape sugar being the final product, the dextrines and maltose marking stages in the transformation. Glucose syrup or corn syrup is extensively consumed, usually mixed with other syrups which give it characteristic flavors.

"In the manufacture of hominy and grits the hulls together with some of the starchy substances of the corn grain are combined into a concentrated product known as hominy feed. Corn bran is seldom sold as a separate feed.

"While corn and its products are extensively used as human food, corn meal being the cheapest of all food articles, the greatest use of corn is for the feeding of animals. When swine are fed, the cheapest grain is thus transformed into meat by the species that makes the most rapid growth of all domestic animals, and is therefore by the conjunction of these two factors the most economical source of meat that we have or are likely to have.

IT'S NOT PERFECT FOOD

"It is a matter of common experience with practical farmers that corn does not seem to be a perfect grain food. Though used extensively with horses, cattle, swine, and poultry, it is most satisfactory when accompanied by significant quantities of other feeds.

"The experiments conducted at the agricultural college touching deficiencies of corn have been upon young

swine. These animals are well adapted to such tests because of the rapidity of their normal rate of growth through which dietary deficiencies would be accentuated and results manifested more definitely and promptly than with a slow-growing animal. In the latter case a larger proportion of the feed would be used in heat production, and elements or certain molecular groupings presented in smaller quantities might prove to be adequate because of the greater total quantity consumed for a pound of gain, the body conserving in its added tissue the molecular fragments most restricted in supply, and using the more abundant in the current need for muscle work and heat.

"Another advantage of swine for such investigations is the fact that the young are produced in litters, thus making it possible to place in the different lots to be tested, animals of the same age and ancestry, and therefore more nearly alike than can be the case with cattle or horses. Experimental groups can thus be made up that are closely similar in essential respects.

"For the last six years the agricultural experiment station of the Kansas State Agricultural college has been conducting experiments in the nutrition of growing pigs with the object of ascertaining the nutritive deficiencies of corn and the means of correcting these. These experiments have been planned jointly by President Waters and the members of the departments of animal husbandry and chemistry."

WEEK'S COLD SPELL BREAKS NO RECORDS

Temperature Goes Down to 18 Below Zero, but 32 Was Reached Once in Distant Past—Last Year's Rainfall

Temperature on the college campus Wednesday night reached the minimum so far this winter. The official record was 18 degrees below zero, according to J. O. Hamilton, professor of physics.

This is by no means a record. Last winter 20 degrees was reached. The lowest temperature recorded here is 32 degrees below zero on February 12, 1899.

Rainfall in 1915 amounted to 50.27 inches, which is the heaviest annual precipitation—by a wide margin—in the 57-year history of the records kept at the Kansas State Agricultural college. The rainfall was 20.1 inches above normal. The nearest approach to it was 45.78 inches in 1876.

The precipitation in December was .76 of an inch or .12 below normal. Snowfall was 4.5 inches. A thunderstorm occurred the night of December 31. The total run of wind was 3,756, which is below normal. The temperature was 2.5 degrees above normal, the average for the month being 33.4 degrees.

FIVE COLLEGE PROFESSORS ATTEND VETERINARY MEETING

Dr. J. H. Burt Gets Fifth Re-election as Secretary of State Association

Five members of the veterinary faculty of the college attended the twelfth annual meeting of the Kansas State Veterinary association, held in Kansas City. The men attending were Dr. F. S. Schoenleber, Dr. J. H. Burt, Dr. R. R. Dykstra, Dr. C. W. Hobbs, and Dr. L. W. Goss.

There were present about 125 members of the association, which includes in its membership practically every graduate veterinarian in Kansas.

Doctor Burt was elected secretary-treasurer of the association. He has held the same office for the past five years. The president for the coming year is Dr. W. J. Guilfoil of Kansas City.

Doctor Goss, of the college, delivered an illustrated talk on "The Recent Outbreak of Foot and Mouth Disease in Kansas." Doctor Dykstra gave a talk on "Tests for the Detection of Tuberculosis in Cattle."

The next meeting of the association will be held in Wichita.

What has become of the old-fashioned statistician who used to demonstrate that a world-war could not possibly last more than a year?—New Orleans Times-Picayune.

DEPLETES KANSAS SOILS

CULTIVATION RESULTS IN SERIOUS LOSS OF ORGANIC MATTER

Expert in Agricultural Chemistry Says Live Stock Alone Is Not Remedy for Modern Condition—How to Restore Lost Nitrogen

An enormous loss of organic matter from the soil is the most serious soil fertility problem which now confronts Kansas farmers, according to C. O. Swanson, associate professor of agricultural chemistry and associate chemist in the agricultural experiment station, who has personally taken samples and analyzed representative types of soils.

"Results based on analysis of cultivated and uncultivated soils in seven representative counties show that the cultivated soils have lost from 1,200 to 1,800 pounds of nitrogen and from 32,400 to 49,600 pounds of organic matter per acre in the surface soil," says Professor Swanson.

"It means in round numbers that these soils have lost from one-fifth to two-fifths of the nitrogen, and from nearly one-fourth to one-half of the original organic matter.

"The cultivated soils of Kansas have lost on the average more than one-third of their original stock of organic matter. The seriousness of this situation cannot be overemphasized.

"The loss of organic matter is not of itself an evil, for the organic matter is the life of the soil. It must undergo changes, assume the form of soluble compounds for plant food, and be used up by the plant, or it is of little value to the soil. Unless the organic matter does decay and form a number of substances, many of which are indispensable for the proper functioning of the soil, the soil will not be fertile.

MAN UPSETS NATURAL ORDER

"The evil consequences follow when man upsets the order of nature and fails to supply the raw materials which are used up.

"Nature's essentials for profitable crop production are these—good seed, proper amount of light, suitable temperature, proper physical and biological conditions of the soil, an adequate amount of moisture, and plant food. The organic matter of the soil is directly connected with and influences all these conditions except seed and light.

"If, then, more than one-third of this organic matter has been lost from our soils after less than fifty years of cultivation, it makes the thoughtful man stop and consider.

"The decrease in the crop-producing power of the soil is a fact familiar to all students of agricultural problems. The larger productiveness of virgin soils, as compared with the productiveness of these same soils after they have been under cultivation for several decades, is well known by the men who broke up the virgin prairie sod and have continued to cultivate that soil for half a lifetime or more.

"More live stock is regarded by some persons as the panacea for all soil troubles. Agricultural writers and speakers generally urge more live stock raising and have a great deal to say about remedying the evil of depleted soil fertility produced by the system of grain farming.

DECREASE IN VARIOUS COUNTIES

"If raising more live stock by itself were the cure, then a typical live stock county, where more grain is fed than raised, should not show this decrease in crop production. The figures given by the state board of agriculture show, however, that there is an average decrease in crop production in Butler, Greenwood, and Chase—typical live stock counties—as well as Brown, Sedgwick, and Russell, where the type is called grain farming.

"As a matter of fact, one system is not to blame altogether and the other system will not necessarily offer the remedy. If the farmers of Barton county deplete their soil fertility—and particularly organic matter—by exclusive wheat farming and straw burning, and the farmers of Butler county continually harvest forage crops from their

cultivated fields and feed these forage crops as well as imported grain on the banks of a ravine, where the manure is washed away, there is no difference between these systems so far as they affect soil fertility. In both cases the organic material is taken from the soil and none is returned.

FARMER SHOULD GROW LEGUMES

"In addition to returning the organic materials in the form of straw and farm manures, some substances must be added to restore the nitrogen removed in grain. A bushel of corn takes one pound of nitrogen, and a bushel of wheat one and one-third pounds.

"The best method for obtaining this nitrogen is by growing legumes such as alfalfa. But this nitrogen will not be restored to the soil if all the hay is exported from the farms. Some of the best agricultural investigators are of the opinion, based on scientific experimentation, that legumes on the average take only as much nitrogen from the air as is found in the hay.

"Therefore, the growing of alfalfa, if grown for export, will not solve the problem of soil fertility any more than live stock farming when the fertility is wasted on the banks of a ravine.

"Farmers in many parts of the state are complaining of the development of gumbo spots in their fields. The majority of such spots which I have observed are due to the loss of the original surface soil, either through soil blowing or soil washing. Where listing is done up and down the rows, it does not take many years to remove the original surface soil.

SOIL BLOWING CAUSES DAMAGE

"In the drier parts of the state, blowing will accomplish the same results. The evil of soil blowing increases with the disappearance of organic matter in the soil.

"The organic matter causes the fine soil particles to adhere in larger aggregates called soil grains, and these are not moved by the wind. When the organic matter is used up these soil grains are reduced to dust which blows easily.

"Soil washing does not take place where the soil is open so that the water is soaked up. Organic matter gives clay and silt loam soils an open structure which enables the water to enter the soil; besides, it binds the fine clay particles together so that they are less easily moved by water in motion.

"In all discussion of problems of soil fertility or conditions of Kansas soils, we must not forget the peculiarity of the Kansas climate. We can not add predigested plant food, in the form of commercial fertilizers, alone, as is possible in a climate of greater and more even rainfall.

"The soils must have a greater resistance against both excessive wet weather and dry weather. This resistance depends more on the content of organic matter than on any other factor."

WILL BE IN THE SHOES OF POOR OLD MR. JIGGS

College Seniors Will Emulate Hero of "Bringing Up Father" Series

Seniors in the Kansas State Agricultural college will have an opportunity this winter of becoming familiar with that much envied art—usually impossible for men—table etiquette. They will be invited to take their dinners in the domestic science building.

Meals will be cooked and served by coeds in the domestic science department and it will be a fellow with a brave heart and strong nerve who can keep the peas from rolling off his fork when a half dozen pretty girls are waiting on him.

PRESIDENT WATERS TALKS TO FARMERS IN ARKANSAS

Addressees State Institute on Topics of Live Agricultural Interest

Doctor Henry Jackson Waters, president of the Kansas State Agricultural college, went to Arkansas this week to address the state farmers' institute. He made two talks, the subjects of which were "Feeding Hogs" and "Live Stock Farming for the South."

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STAY ON LAND—CAPPER

MAKE FARM LIFE WORTH WHILE, URGES KANSAS GOVERNOR

Executive Addresses Short Course Students on Agricultural Problems of State—Emphasizes Education, Co-operation, and Adequate Rural Credit

Make it worth while to stay on the land. This was the message brought by Arthur Capper, governor of Kansas, to the college short course students Wednesday in a clear-cut address on the big agricultural and rural life problems confronting the state.

The trend of American population to the cities was characterized by Governor Capper as the greatest problem confronting the nation today. He pointed out that more than one-third of the counties of the United States showed, by the last census, a decline in rural population during a period of large increase in the population of the nation as a whole. This took place in spite of the fact that agriculture, as he stated, is about the only industry that does not have a bread line. As an allied problem demanding attention, he presented the rapid increase in tenancy, showing that at the present time 42 per cent of farms are operated by tenants as against 37 per cent in 1910 and 25 per cent in 1880.

Longer leases, more general co-operation, and more equitable terms between landowners and tenant farmers were advocated by Governor Capper as remedies. "How else," he asked, "are we going to maintain the workers in our biggest industry, make first class, home owning, taxpaying citizens of them and have No. 1 farmers on our farms?"

CREDIT FOR TENANT FARMER

"Closely allied to this difficulty," continued Mr. Capper, "is the development and extension of our rural credit system, now in an uncertain and feeble infancy. We need farm credit for the tenant farmer even more than for the landowner."

"Tied up with this is rural community organization, co-operative marketing, a really effective system of distribution which shall couple demand with supply and eliminate the greatest source of waste in the economy of the American nation."

"Good roads come in here. We are, if anything, a little behind other nearby states in this particular. We are losing vastly more of actual benefit and cash than we have any idea we are losing and in ways many of us still are blind to."

"Yet far more important than all these—though vitally affected by each of them—the solution of all and the only solution, first, last, final, dependable—is education, especially rural education; and more comfort, well being, and happiness, and less irksome and exhausting drudgery in the farm home."

KANSAS FUTURE IN MAKING

"We are making fine progress here. Yet we have barely started. The future of Kansas is in the making, right now, in the tiny little school houses which dot the map of Kansas like the holes in a sieve."

"Farming demands educated men and women. The agricultural colleges and universities, neither in the classroom nor in their extension service, can meet the full need. Every farm boy or girl desiring the equivalent of a good high school education, including instruction in agriculture, animal husbandry, horticulture, manual training, and domestic science, should have the opportunity at home of acquiring that training. We must work for better and stronger rural and grade schools for the benefit of the vast number of children unable to obtain the advantages of higher education; we must work for more attention to the fundamental and practical in educa-

tion; and for open school houses for the public and the encouragement of the social center idea in every community.

"It seems to me we have lost too many bright young men and women who should have remained on the farm and in the rural communities.

PREMIUM ON CITY LIFE

"For half a century our national system of taxation and our commercial system have placed high premium upon city life and have discouraged rural farm life—with the inevitable result that our city population has increased in the last few decades far out of all proportion to the increase of farm population. Twenty years ago the cities contained only 20 per cent of our population; today nearly 50 per cent of our people live in the cities. And aside from the luring opportunities for making money, the 'call of the city' is perhaps a wholesome craving, born as it is of the desire for fellowship, for amusement and culture. But the cost of gratifying this desire in the city is very great, involving loss of neighborliness, curtailment of freedom, sacrifice of identity."

Governor Capper presented both economic and moral motives for retaining the best brains of the nation "where the best brains originate—in the rural districts." "They'll not be wasted there," he commented.

Organization and co-operation were urged by Governor Capper upon the young farmers whom he was addressing.

"A new and appropriate name has been found for the American farmer," declared the governor. "He is now being called the 'paymaster of industry.' And that is exactly what he is. Farming is the great American industry. Manufacturing comes next and is a mighty poor second in spite of all the attention and all the favors it gets."

FARMER IS HEAVIEST INVESTOR

"The American farmer has more capital invested than any other man in any other industry. He is producing more steadily than any other man in any other industry and he is giving greater returns for every hour's work done than any other man in any other industry."

"The American farmer is contributing every year about twelve billions of dollars annually to the welfare of the American people. The railroads get about 1½ billion, the manufacturers 4½ billions, the bankers 200 millions, the merchants 3½ billions, the miners more than a half million, and a miscellaneous payroll takes the rest."

"But when he has met these obligations, the man on the farm has left for himself and his family about what would constitute day wages. Mainly, this is because his is the only industry unorganized, and because he must pay more interest for money with which to finance his business than any other person on earth."

"The farmers of the United States are borrowing more than two billion dollars a year on their land alone and are buying credit at from 6 to 25 per cent. Nobody else pays as much for it."

A GODSEND TO THE WEST

"Adequate co-operative rural credit will be a godsend to any state, especially the western states. It is going to come, but it will come sooner if we begin actively to agitate and promote its coming. The first system adopted may not meet all requirements, but it will lead to perfecting the best possible system based on our own needs and experience. We shall probably see both state and national systems, and the one found most worthy will survive."

"Co-operation and organization are the watchwords of American advancement and Kansas farmers must come to it. The farmer buys of organized business and sells through organized

(Concluded on Page Three)

BETTER MILK WILL PAY

HIGH GRADE, HOWEVER, DOES NOT ALWAYS ADD EXPENSE

State Dairy Commissioner Points Out Methods by Which Quality of Kansas Product May Be Improved—He's Educating the Consumers

It pays in dollars and cents to improve the city milk supply even though it may cost something to bring about the results, asserts Geo. S. Hine, state dairy commissioner.

"Extra expense is not always necessary in the production of a better grade of milk," Mr. Hine points out. "If Kansas dairymen buy pails with small openings instead of the open mouthed ones, they not only will pay the same price, but will also get a utensil that will safeguard against a large amount of dirt falling into the milk."

"A well-soldered pail or can, free from rust, will prevent the harboring of germs. This means that there should be no rough seams in which dirt can accumulate and milk curdle.

WASH RECEPTACLES WITH CARE

"In washing the milk pails, cans, or bottles, they should first be rinsed with cold water, next thoroughly washed with warm water to which some good washing powder has been added, and then scalded with boiling water. After this the can must be inverted in pure air.

"The less draft there is in the barn at milking time, the smaller the chance for dust to settle in the milk. Musty feed should never be given to the milk cow nor should she be watered in polluted ponds, as these will have a bad effect on the milk. Another source of contamination is eliminated when after milking each cow, the milk is taken immediately to the milk room and emptied from the pail.

SHOULD PAY FOR QUALITY

"We are trying in every way possible to enlighten the public so that the better milk producer will find the merits of his milk appreciated by the consumers. Owing to our present system of marketing the man who produces milk of better quality cannot receive a price that is high enough to pay for his care in handling the milk properly.

"When suitable city ordinances have been passed or the sections covering the milk control work for the cities of the state have been changed, then the man who is particular that his customers should have milk which can be trusted for its quality, will find appreciation for the thought and care he gives to the production of clean milk.

"All milk not bottled by the producer should be pasteurized. The milk, prior to pasteurization, should be clean and wholesome, since this treatment is not a cure for dirt and filth but rather an essential safety precaution if the best possible results are to be obtained with milk of moderate price."

"The methods of improving the milk supply and dairy conditions generally prevalent in the larger cities are of educational value. The dealer is required to grade the milk and cream, each package being plainly marked to show the grade. Thus the consumer demands and pays for a definite quality which enables the producer of the best article to receive just compensation for his work. Kansas City has an ordinance now in force which requires the grading of all milk sold."

DOCTOR KAMMEYER IS HEAD OF LOCAL COMMERCIAL CLUB

College Professor Becomes President of Manhattan Business Organization

Dr. J. E. Kammeier, professor of economics in the college, is the new president of the Manhattan Commercial club, succeeding H. W. Brewer.

Take Two From K. U.

The Aggies continued their victorious basketball season by taking two games from the University of Kansas. The score Thursday evening was 31 to 18; Friday evening, 26 to 12.

IT'S WORSE THAN FIRE

LACK OF PAINT ON KANSAS BUILDINGS CAUSES HEAVY LOSS

College Chemist Carries on Experiment to Find Combination Suited to State Climate and Pocketbook—Seeking "Made in America" Product

"Lack of paint causes a greater annual loss through deterioration than the aggregate Kansas fire loss for twelve months," asserts H. H. King, associate professor of chemistry in the Kansas State Agricultural college. "People generally paint because of the ornamental effect, little realizing that they are preventing a heavy loss through deterioration by so doing."

◆

SELECT YOUR SEED CORN NOW, IS EXPERT'S WORD

This Will Allow Time for Thorough Germination Tests—Consider Maturity and Size of Ears

If you have not already done so, select your seed corn now, is the advice to Kansas farmers of S. C. Salmon, associate professor of farm crops in the Kansas State Agricultural college.

"Corn in open cribs is susceptible to damage because of the moist condition of grain kept in such places and because of low temperatures," says Mr. Salmon.

"By selecting seed now, time is allowed for thorough germination tests before seeding time in the spring. Such tests give the opportunity of discarding ears which do not germinate, or those which give unsatisfactory tests. Seed selection now can be done more economically than it can in the spring.

"In the selection of seed, maturity is an important consideration. The ear should have been matured at the end of the growing season and yet not have been matured ahead of time, for in that case it will not have made full use of the available food and water supply. Immature corn should not be selected in any case for if it germinates—which is improbable—immature corn may be produced. Such corn is not desirable because it is more difficult to store, is less nutritious as feed and yields less money return.

"Another point to be considered is the size of the ear. Small ears will likely produce small yields while large ears will tend to produce big yields."

WHEN BRIGHT DAY COMES POISON THE PRAIRIE DOGS

January, February, and March Are Best Months for Eliminating Troublesome Animals, Says Zoologist

Poison prairie dogs on any bright sunshiny day in January, February, or March advises Dr. R. K. Nabours, zoologist in the Kansas Agricultural Experiment station. It is in these months that they can best be killed. When fresh grass or other vegetation is available, the little animals don't seem keen for the poison.

After considerable experimentation by the station several years ago, poisoning was found to be the surest means of eradicating the prairie dogs. Since then other experiment station workers and government workers have confirmed this conclusion. In the past few years prairie dogs have been completely eradicated from large areas of the state where formerly they did much damage. In some sections, however, there has been a relaxation of vigilance on the part of the farmers and a re-invasion by the animals.

A poisoned sirup with grain is used for killing the prairie dogs. The sirup is manufactured by the college and sold at 90 cents a quart or \$1.75 a half gallon, full directions accompanying. This method has not been known to fail, when used according to directions, say zoologists.

A circular on the prairie dog situation is obtainable from the agricultural experiment station.

KING TRIES MANY OILS

The oils used in the mixing of the paints were: linseed, which is the old standby but more expensive than some others; sunflower, which should appeal to Kansas farmers at least; Menhaden fish oil; soy bean oil; corn oil; and cottonseed oil. If the experiment points favorably toward the use of either sunflower or cottonseed oil, it will mean an added "made in America" product.

The thinners employed were pure spirits of turpentine, petroleum spirits, and wood turpentine. Driers of different kinds were also used to hasten the drying of the paint.

The paint was applied on panels made of specially seasoned hand-picked white pine drop siding. Care was taken to get the panels of as near the same grain as possible, so that all would have the same absorbing power. Each panel is 18 by 36 inches, made up after the wood had been subjected to special seasoning in the department for a year. When the paint was applied the can was weighed before and after each coat was put on to get the amount of paint needed to cover the given surface. Each coat was thoroughly dried before the next coat was put on.

WHITE AND COLORS USED

Of the 256 panels, 128 are painted white—two by each formula; 64 are yellow; and 64 are grey. The object of the colors is to see if color in the pigment will prolong the life of the paint.

Each panel is numbered and a record kept concerning it. When the paint is all dried, a photograph is taken of a certain spot on the panel. The panels are on fences made to order. The white panels are to be put on a fence running east and west so that 64 of them will face the south where they will get the hot sun in the summer time. The other 64 are on the north side where they will get all the winter's rain, snow, and wind.

The fence containing the yellow and grey ones runs north and south so the grey ones will be on the east side and the yellow ones on the west, and both will be exposed to all kinds of weather.

When the panels have been on the fences for a year the change in paint surface will be noted and another photograph of the same spot of each panel will be taken and the change of each spot noted.

Several things will be accomplished by this experiment. It will be found what pigments give the best and longest service, what oils combine best with the pigments used and with each other, and also what formula produces the best paint at the least cost.

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Poverty is now declared to be the chief cause of disease, drunkenness and vice. Apparently elimination of poverty would solve all the world's problems.

Mr. Updike of Chicago is doing nothing to help his boys, which seems heartless to some of the sob dailies. But, since they were counting on murdering him, one can hardly blame him.

One of the estimable gentlemen who write long, querulous letters to the newspapers thinks the rural schools should be immune from criticism because James A. Garfield, William McKinley, and other citizens of years ago used to study in them. It's hard on prominent citizens if educational progress must be stopped out of respect to their memory.

SLIPPING IT OVER

You can get away with almost any statement that depends for its truth or its pertinence on even slightly complicated figures. The husband of any housewife is familiar with the vegetable or fruit peddler who gets exorbitant prices by selling his goods not by the dozen, but by the 20, 25, or other uncommon measure.

The same system has made its appearance in the advertising columns. One can now buy 12 pounds of a certain preparation for 75 cents and 25 pounds for \$1.60. A little figuring shows that the man who buys 75 cents' worth pays \$0.0625 a pound, while the one who gets the larger quantity pays \$0.064 a pound. Yet there are doubtless many who buy the preparation in 25-pound lots to get a reduction in price.

A BREWERY MAKING BUTTER

In Iowa prohibition went into effect January 1. A news story dated January 19 says that the Maquoketa brewery has taken up the manufacture of a new non-alcoholic drink, while the Iowa Brewing company at Iowa City has changed its name to the Iowa City Creamery and Produce company and is turning out 2,700 pounds of butter a day. Next summer it plans to manufacture ice cream also.

Yet the stock economic argument against stopping commercial traffic in liquor is that it would make millions of dollars' worth of property useless and throw thousands of men out of employment.

WRONG AGAIN

We moderns are all wrong again, as we not infrequently hear from scholarly circles.

"Thesis work at Harvard," a Professor Young is reported as having said to a gathering of educators, "usually takes the direction of dissertations on medieval subjects, not because these subjects are the only ones of value, but because they offer the best and most natural discipline. Modern subjects are difficult to handle and rare; dissertations, therefore, tend to be in the medieval field."

Probably the professor refers only to his own subject, which is English, and he is fair enough to admit at least that modern English exists. Perhaps he has even noticed the colorful cover of the Saturday Evening Post

flashed before him by the energetic boy salesman at the railway station or the door of a university hall. But he has never paused to wonder why some two million unintelligent engineers, salesmen, lawyers, physicians, bankers, and—heaven save the mark!—college students and professors buy the Post every Thursday, while the Seavane Review worries along with some few hundred subscribers.

Medieval subjects, urges Professor Young, offer the most natural discipline. Nobody with sense denies that the middle ages exerted incalculable influence on the progress of the world, but why do subjects taken from them offer "the most natural discipline"? Because advanced students turn naturally to subjects in which the vast majority even of intelligent people have no living interest? If that is the case, they'll have a hard job turning the American public—or that portion of it in the undergraduate departments of colleges and universities—from its devotion to Robert Chambers and Harold Bell Wright. You've got to have some sympathy with people's ways of thinking even to persuade them to stop swallowing flapdoodle.

Modern subjects undoubtedly are difficult to handle, as the professor contends. If you write on a good, live, modern subject, the chances are some bright writer or magazine editor will know something about your topic. He may read your dissertation, and if it is full of nonsense he will not hesitate to say so, aptly and fluently. That's one of the difficulties of a modern subject, and there are others. But why should they deter a man of insight and courage? Since when were universities run to keep students away from difficult subjects?

So far as the statement that modern subjects are rare is concerned, it seems as though some good topics for scholarly dissertations might be culled from the manifold literary activities of the greatest book-producing era in history. Some one might even investigate the reasons why something like 99 per cent of the public have such vulgar tastes that they take greater interest in the twentieth century than in the thirteenth.

CANDYING CRANBERRIES

Various methods for candying cranberries successfully, so that they would retain their shape, have been advanced from time to time, but the candied cranberry is very seldom seen in American confections or for garnishing use on tables in American homes. The domestic department of Uncle Sam's well equipped investigation bureau has been conducting a series of experiments to determine whether cranberries may be successfully candied, and they have issued the statement that anyone may candy this tasty fruit by the quick, simple process described below. This method, if closely followed, gives a bright, firm, plump, semi-transparent candied fruit, which can be eaten as a sweetmeat or used to give a touch of color to frosted cakes, whipped cream, or custards; it can also be used like citron in cakes or puddings or chopped up and added to tutti-frutti ice creams.

The secret of candying cranberries lies in handling the fruit so that it will become saturated with sugar. This calls for slow cooking on the installment plan and the use of a dish large enough to permit all the berries to float at the top of the syrup during cooking. The skins are so tough that they must be pierced before cooking to let the syrup into the pulp or interior. To do this, three little slits, each one-half inch long, should be made in each berry with the point of a penknife. Use selected large, firm cranberries. The directions for cooking are as follows:

For one and one-half cupfuls of berries make a thin syrup by boiling together until clear two cupfuls of sugar and two and one-half cupfuls of water. When the syrup is cool, add the berries and bring the mixture very slowly to the boiling point. If the berries are heated too quickly, the skins will burst before the syrup soaks into the pulp. As soon as the syrup boils, take the dish off the stove and

let it stand over night. Next day, drain the syrup from the berries and boil it until it is reduced to about one-half its original volume. Put the berries into this medium thick syrup and heat slowly; boil them gently for three or four minutes, and then allow them to stand for two hours or more. Then boil them gently a third time for five minutes. A smaller dish probably will be needed for the third and last boiling. When they are thoroughly cold, or better still on the following day, drain off the syrup and spread the berries out on a lightly buttered plate or a sheet of clean, waxed, or lightly buttered paper, until the surface of the berries dries.

The berries, if directions have been

"Third—to make the taking or administering or prescribing of alcohol or opiates in habit-forming quantities a criminal offense, from the penalties of which regular physicians shall in no way be exempt.

"The campaign against the drink evil and the drug evil is a matter of public health, of public morals, and of public righteousness which it is the duty of our papers actively and aggressively to promote."

The daily circulation of the Hearst newspapers affected by the order is about 3,750,000. Heretofore these newspapers have carried on a hot campaign editorially against the drink and drug evils, but made no discrimination in advertising.—Fourth Estate.

TRUST THOU THY LOVE

John Ruskin

Trust thou thy Love: if she be proud,
is she not sweet?
Trust thou thy Love: if she be mute,
is she not pure?
Lay thou thy soul full in her hands,
low at her feet:
Fail, Sun and Breath!—yet, for thy
peace, She shall endure.

SUNFLOWERS

The men who sigh are the men who die.

Why wouldn't it be a good idea to invite the Irish over and have a Pan-American Union?

The Manhattan Nationalist has a group of "papal munzios" in its latest story from Rome. No hierarchy is in it with a daily newspaper when it comes to devising new ecclesiastical titles.

POOR MR. SISSON

Several million girls pay real money every month to read Robert Chambers' novels. So far as is known, only one man reads them—Edgar Sisson, editor of the Cosmopolitan. And he is paid to do it.—Everyweek.

FABLE OF THE SERIOUS YOUNG MAN

A young man of serious mien and little worldly wisdom once went to college. Being reserved in disposition and averse to social activity, he applied himself seriously to the business of making excellent grades in all his courses. He spent only a fair portion of his time in athletic pursuits, and he gained little prominence among the student body.

Almost all the more popular students looked upon this young man as a narrow sort of a grind. Personally they liked him and many of them secretly admired his earnestness. But they deplored his fatal and absorbing interest in his work and did their best to warn him against neglecting his education for a little thing like good grades.

One day, soon after he had graduated with high honors, a prominent business man, far-famed for the keenness of his vision, came to the college in search of a reliable young man to fill a responsible position. To the surprise of the faculty and everybody else in college, he chose this same serious student, giving as his excuse the fact that he wanted somebody who could make good at the work set before him.

Some people understand getting a college education better than most people do.

A. E. SUPP.

INCREASE IN COAL OUTPUT

The coal industry of the United States, which began the year 1915 under adverse conditions, improved steadily during the summer and fall in sympathy with the general betterment of business, and in November and December was in better position as regards markets and prices than at any time since 1913, although in the territory west of Ohio the improvement came too late to overbalance the depression of the earlier months.

The production of bituminous coal and anthracite in the United States in 1915 is estimated by C. E. Lesher, of the United States geological survey, at 518,000,000 short tons, an increase over 1914 of less than 1 per cent. Bituminous production increased about 6,500,000 tons, and the output of anthracite was less than in 1914 by about 2,200,000 short tons.

The increase in the output of soft coal was not shared equally by all the fields, for reports from 100 coal carrying railroads and from leading coal-mining operators and others familiar with the industry indicate that in the bituminous fields of the east production increased, whereas in the area west of Ohio there was a general decrease. All states in the Mississippi valley and in the Rocky mountain and Pacific coast regions, except Colorado and possibly Wyoming, remained either practically stationary as regards output or showed decreases.

Man an Instrument

Will Levington Comfort

A man is at his best in those periods in which self-interest is lost to him. The work in which a man can lose the sense of self for the most hours each day—that is his especial task. When the workman gives forth the best that is in him, not feeling his body, above all its passions and petty devices for ruling him, concentrated upon the task, a pure instrument of his task and open to all inspiration regarding it—that man is safe and superb. There is something holy in the crafts and the arts. It is not an accident that a painting lives three hundred years. We are not permitted to forget the great potters, the great metallists, the rug and tapestry makers. They put themselves into their tasks, and we are very long in coming to the end of their fineness. They produced. They made their dreams come true in matter; and that is exactly what our immortal selves are given flesh to perform. Each workman finds in his own way the secret of the force he represents. He is an illuminated soul in this discovery. It comes only to a man when he is giving forth, when he is in love, having lost the love of self. Giving forth purely the best of self, as the great workmen do, a man is on the highway to the divine vocation which is the love and service of humanity.

A QUARTER CENTURY AGO

Items from the Industrialist of January 24, 1891

The copy for Bulletin No. 15, on smuts, goes to the printer today.

The large logic class meets, for lack of room elsewhere, in the society hall.

A number of orchids in bloom add to the interest of visitors to the greenhouse.

The seventh biennial report of regents and faculty is printed, and will be distributed early next week.

Regents Forsyth and Caraway made earnest addresses to the students in chapel on Wednesday and Thursday mornings.

Exhaustive dairy tests, being a part of the feeding experiments conducted by the farm department for a year past, are now being made.

Secretary Graham writes entertainingly in the Manhattan Republic of his impressions of Oklahoma, gained in his visit to that country during vacation.

The gymnasium will be open in future at the following hours: daily from 8 to 8:30 a.m.; Monday, Wednesday, and Friday at the fifth hour—12:10 to 1 p.m.; Friday afternoon from 2:30 to 4 o'clock.

D. E. Bundy, '88, writes from Pawnee agency that he and Mrs. Bundy expect, on March 1, to take possession of a farm near Blue Rapids for a three years' stay, and will visit the college on their way.

Dr. A. F. Waugh of McPherson visited his son and daughter at the college on Monday, on his return from the meeting of the state board of agriculture. Doctor Waugh takes a lively interest in the work of both college and station.

Mrs. Kedzie had a narrow escape from serious injury last week, having been turned over in her carriage by a huge snow drift which she was driving through. But for her presence of mind and her horse's obedience to her voice, the accident would have resulted in more than a few bruises.

AMONG THE ALUMNI

Miss Ella Meyer, '07, postmistress at Riley, was in Manhattan recently.

T. E. Nafziger, '11, is teaching manual training and agriculture in the McPherson high school.

Ernest G. Shaad, '14, is teaching agriculture and science in the New London (Minn.) high school.

Harold Goble, '15, who is employed in the Farmer's State bank at Clay Center, spent Sunday in Manhattan.

C. H. Popeno, '05, entomologist in the United States department of agriculture, visited the college a few days ago.

Miss Vida Harris, '14, is teaching in a Methodist mission school in Austin, Tex. She is enjoying the winter in the south.

Miss Mary Dow, '11, is doing special work in the college. Miss Dow is teaching in the Manhattan junior high school.

Miss Genevieve Nowlin, '14, is teaching home economics at Hiawatha. Miss Nowlin taught at Baxter Springs, last year.

Miss Mary Gaden, '08, who is teaching domestic art and science in the high school at Bisbee, Ariz., writes that she is enjoying her work.

James M. McArthur, '15, writes that he is highly pleased with his position as teacher of agriculture in the State Normal school at Minot, N. D.

Miss Margaret Ann Blanchard, '14, who is employed in the high school at Ellsworth, was forced to give up her work temporarily on account of illness.

Miss Ada Worley, '13, writes that she is enjoying her second year of teaching in the high school at Hailey, Idaho. Miss Worley spent last summer seeing the fair and touring the west.

George E. Maroney, '12, is instructor in anatomy in the University of Utah. He is enjoying his work and finds the climate most attractive. Mr. Maroney took the degree of master of arts from the University of Kansas last year.

Miss Wilma Richards of Kansas City, Mo., and Mr. Lester Scott Beeler of Jewell City will be married Saturday evening, January 29, at 8:30 o'clock. Miss Richards was a student at the Kansas State Agricultural college and formerly a resident of Manhattan.

Willis E. Berg, '11, is director of the department of agriculture and rural education in the Northern Arizona Normal school, Flagstaff. Since going to Flagstaff Mr. Berg has built up the department of agriculture and has promoted the school paper by teaching, as a little side issue, the art of writing.

BIRTHS

Born, to Mr. and Mrs. E. Haywood Moore, Concordia, Kan., on January 15, a son. Mr. Moore is a former student and resident of Manhattan, now manager of the Duckwall Racket store at Concordia.

MARRIAGES

LANDIS-POTTER

Miss May Landis, '15, and Mr. Percy Potter, '11, were married December 28 at the bride's home in Kiowa. Mr. and Mrs. Potter are at home in Manhattan, where Mr. Potter is connected with the college.

NEW YEAR'S DINNER

Mr. and Mrs. J. B. Jeffs, '08, Ann Arbor, Mich., and C. W. Melick, Rochester, Mich., formerly assistant professor of dairying in the college, ate New Year's dinner at the home of Dr. and Mrs. R. H. Wilson, '09, Rochester, Mich. A most enjoyable time was spent in renewing old acquaintances and talking over college days.

J. B. Jeffs is Michigan representative of the James Manufacturing company; C. W. Melick is in the dairy business at Rochester, and R. H. Wil-

son is chief veterinarian for Parke, Davis and Company, Detroit, Mich.

FARMING IN ALASKA

The 1914 report of the Alaska Agricultural Experiment station edited by C. C. Georges, special agent, formerly professor of agriculture in this college, has just been received. The pamphlet contains 96 pages of interesting reading matter and gives a summary of the work carried on in finding trees, shrubs, grains, vegetables, and farm animals adapted to stand the rigorous weather conditions prevailing along the Alaskan coast. In Alaska the growing season comprises hardly 100 days, yet the report shows that many kinds of vegetables and berries were raised with success. Oats and barley are doing well if properly handled. Alfalfa is not a success. Fine hay and good silage can be made of the native blue top grass. Galloway cattle, sheep, and hogs are being raised and wintered successfully. Professor Georges is evidently pushing his station work with characteristic energy.

ROYAL PURPLE FOR 1916 TO HAVE NEW FEATURES

Committee Makes Plans for Annual of High Standard—Gives Special Attention to Art Work

The Royal Purple, the class book published by the seniors of the Kansas State Agricultural college, which has been made more pretentious from year to year, will this year, it is promised, rank high among American college annuals.

Many new features will be included. Special care is being given to the art work. The dedication feature, it is stated by the committee, will be different from anything ever before attempted by a Royal Purple staff. The arrangement of the class writeups, and the rest of the contents of the book likewise will be unique.

The 1916 committee is composed of "live wires," and the members are putting forth every effort to make this year's Royal Purple a source of pride not only to the students, but to all the alumni. A large number of the alumni have ordered books and the committee hopes to place many more in the homes of the alumni, since in this way the "old grads" will get a graphic conception of what the school is doing.

The personnel of the 1916 committee is as follows: W. C. Calvert, business manager; P. H. Wheeler, editor in chief; H. M. McClelland, Fred Kormeier, T. K. Vincent, Miss Eva Lawson, Miss Mildred Branson, L. A. Maury, G. M. Schick, Miss Florence Justin, Miss Mary Polson, G. C. Ferrier, and H. R. Sumner.

MISS MAY CARLEY PLEASES WITH FIRST SONG RECITAL

New Voice Instructor Gives Attractive and Varied Program at College

Miss May Carley, who became instructor in voice in the college music department at the opening of the present term, made her first public appearance in a song recital in the auditorium Wednesday evening. Though she came with a high reputation as a singer, she exceeded all expectations.

Miss Carley, who has a deep contralto voice, sang lieder, Italian songs, operatic numbers, and American songs, all with great musicianship and with the ease of conversation. Her low notes were rich and strong and the high notes brilliant.

Miss Fanchon Easter, instructor in piano, accompanied Miss Carley most artistically.

V. C. STUTZ GREW FRUIT THAT TOOK COLLEGE PRIZE AWARD

It's He, Not His Son, Who Owns Horticultural Distinction

J. G. Stutz characterizes as incorrect the statement in THE INDUSTRIALIST that he grew the western Kansas fruit which won a prize in the recent contest. It was grown by his father, V. C. Stutz of Ness county, and exhibited by his brother, George E. Stutz.

TO LICENSE ENGINEERS

STATE SOCIETY FAVERS PLAN BUT DECIDES TO WAIT

Pledges Co-operation in Plans for Flood Prevention and Good Roads—Annual Meeting of Kansas Organization Brings Many to College

Licensing of engineers in Kansas was favored by the Kansas Engineering society which held its eighth annual meeting at the Kansas State Agricultural college Tuesday and Wednesday of this week, but the general opinion of the members present was that a policy of "watchful waiting" should be observed. It was deemed wise to wait until some other states standardize their license laws so that Kansas could come in on a similar basis.

A bill calling for a state license was prepared by a committee under Con Buck of Topeka, division engineer of the Santa Fe Railway company, and the report of the committee accepted at the meeting. This bill will be printed and distributed among the entire membership for consideration. A canvass will be made and if sentiment favors quick action, the bill will be presented at the next session of the legislature.

The society pledged its co-operation with the Kansas Flood and Water congress in working out a statewide flood prevention plan. In fact, discussion of the flood question as relating to Kansas was an important feature of the program.

FLOOD LOSS IS ENORMOUS

H. B. Walker, drainage and irrigation engineer in the Kansas State Agricultural college, told the members of the society, in the course of an address on "The Need of a Comprehensive Flood Protection System for Kansas," that this state sustained in the last 13 years a property loss of \$50,000,000 by floods.

"The valleys of Kansas are the business arteries of the state," he said. "Seven of the eight cities of the first class are in or adjacent to river valleys. Two of these, Atchison and Leavenworth, are on the Missouri river and consequently are not included in strictly Kansas drainage basins. However, five of the eight cities of the first class are directly interested in Kansas streams, and 27 of the 67 cities of the second class have felt the effects of Kansas floods.

"It is evident that the Kansas flood problem is not one of agricultural importance alone. The 32 cities of Kansas of the first and second class, together with the 110 cities and villages of the third class, are many of them wholly or partly located in the flood plains of Kansas streams. Moreover, many of these municipalities depend upon these water courses for their water supplies and other municipal necessities. These cities of Kansas, representing 25 per cent of the state's total population, deserve careful consideration in any comprehensive flood protection plan.

RAILROADS IN WET AREAS

"Kansas has approximately 9,200 miles of railroad lines, and 1,233 miles of this total are located in the flood areas of our streams.

"In working out a comprehensive flood plan for Kansas the interests of the railway companies must be duly considered.

"The first principle of road construction is good drainage. In Kansas we have 3,400 miles of public road subject to overflow. This is a little more than 3 per cent of the total mileage of public roads in the state. These public highways include not only the township and county roads, but also a considerable portion of the great cross state roads such as the Santa Fe trail and the Golden Belt route.

"A comprehensive drainage plan carried into execution would solve the first principle of road construction on these important public institutions and would add considerably to the convenience, ease, and safety of public travel."

The engineering society decided to co-operate with the Three Hundred and Sixty-five Day Good Roads club and

the Kansas State Good Roads association with a view to procuring the enactment of good roads laws.

Alva J. Smith of Emporia was named as president of the society. Other officers elected are H. B. Walker, Kansas State Agricultural college, vice president, and C. A. Forter of Topeka, secretary-treasurer.

WATERS WELCOMES ENGINEERS

The address of welcome was delivered by Dr. Henry J. Waters, president of the agricultural college. T. J. Strickler of Topeka, president of the society, responded.

Others on the program follow: P. F. Walker, dean of the engineering school of the University of Kansas; S. A. Hadley of Topeka; and W. W. Carlson, associate professor of shop practice in the agricultural college; M. C. Blanchard, engineer with the Santa Fe railroad; N. T. Veatch, Kansas City; L. E. Conrad, professor of civil engineering in the agricultural college; E. Lee Heidenreich, Kansas City; E. J. Kiersted, Kansas City; L. B. Smith, Topeka; Karl Riddle, Oberlin; W. S. Ruggles, Emporia; H. B. Walker, professor of irrigation and drainage in the agricultural college; H. O. Rice, professor of civil engineering, University of Kansas; A. R. Losh, assistant highway engineer in the agricultural college; G. L. McLane, Hutchinson; R. F. Gullup, Marysville; J. M. Meade of Topeka; E. E. Howard of Kansas City; and George S. Shaad, professor of electrical engineering in the University of Kansas.

STAY ON LAND—CAPPER

(Concluded from Page One)

business. How can he hold his own if he is unorganized? Organized as effectively as the American Federation of Labor, the farmers of the United States could dictate the price of food-stuffs and, if so disposed, force the enactment of laws that would for a time place them in affluence and cause hardship to nearly every other class of people. We do not want that, nor do I fear that.

"Kansas country people should realize, however, that 'in union there is strength,' and should get together for mutual benefit. Every city has its commercial club, every village its improvement association. Is the man who farms, whose investment totals many thousands of dollars and whose operations sometimes run into tens of thousands, less a business man than the man who sells a few dollars' worth of goods over a counter every year? Community organization and co-operation among country people not only means more dollars, but a broader and better social life, and an education at home for their children.

NEW LEAVEN IS WORKING

"And I believe this leaven is working. Wherever one goes today, all over Missouri, Kansas, Nebraska, and other western states, I find the men and women and the children are talking of clubs and associations, the end and aim of which are to make life larger and more wholesome. The forces of the countryside are gathering for a great forward movement. There is everywhere a note of comradeship that stirs one as the blast of a trumpet.

"So I say the fundamental task of rural advance is local rural community building—the gradual erection of stronger communities, founded on better farm practice, securing a fair profit through better farm business methods, and growing mightily ambitious for a better farm life."

The governor appealed for leadership in moral and social as well as economic movements. He laid stress on the value of the school house as a center of community life, predicting that before long "there will be no more locked and barred school house doors during vacation or at other times." He emphasized also the importance of modern conveniences on the farm and in the farm home.

Governor Capper made a brief address also to the Kansas Engineering society, which was holding its annual meeting at the college.

KEEP DISEASE FROM HOG

DR. F. S. SCHOENLEBER ADVISES SPECIAL CARE AT THIS SEASON

Proper Cleaning of Farms Annually Would Largely Eliminate Sickness of Swine and Other Live Stock—When to Vaccinate

This is the time of year when Kansas farmers and stockmen should exercise an unusual degree of care in order to avoid disease among their hogs, warns Dr. F. S. Schoenleber, professor of veterinary medicine in the Kansas State Agricultural college.

What should be done to prevent cholera, swine plague, and other hog diseases? Should the farmer feed one of the many disease preventives advertised on the market or should he vaccinate the hogs? These are some of the many questions that come in from Kansas farmers. "If the herd shows no sign of infection, do neither," is the advice of Doctor Schoenleber. "Clean up," says he, "not only the lots and pens, but the premises. This should be done under the supervision of a veterinarian or some other person who has a knowledge of bacteriology and sanitation. No one else will do the job properly."

SAVE MILLIONS A YEAR

If all the farms were cleaned up in this manner each year, points out this authority, not only swine diseases, but all other stock diseases would eventually be largely eliminated. This fact cannot be too strongly emphasized, and farmers should be willing to co-operate in stamping out the cause of a loss of millions of dollars every year.

The greatest trouble is that the farmer thinks that he has his place properly cleaned up and disinfected when in reality he has many places in the lots and pastures that are natural harbors for parasites and disease germs.

"When there is any disease in the neighborhood or vicinity, then it is best to vaccinate, using the simultaneous method," says Doctor Schoenleber. "This guarantees immunity from cholera for six years. The serum can be obtained from the agricultural college, and any veterinarian can do the vaccinating. The cost ranges from 25 to 30 cents for shoats up to \$1.25 for heavy hogs.

IT'S A SANITATION PROBLEM

"The whole problem of preventing disease and having healthy, thrifty hogs is, however, one of sanitation. When the farmers learn that hogs respond to good care as quickly as people, and are almost as susceptible to disease, they will take better care of them and will have far fewer losses.

"At present there is hardly a vicinity in Kansas where hogs are grown to any extent, that has not some disease. The same drastic measures should be taken to free the state of hog cholera that are used with foot and mouth disease, glanders, or any other fatal stock disease.

"There are scarcely any herds of hogs in this or any other state that are not infected more or less with parasites. There is much danger during the first two months of the fall from the feeding of green corn, since it has a natural tendency to lower the vitality of growing hogs. These two facts, coupled with cold weather and confinement, make the contraction of disease easy if germs are brought into the lots."

TRACTION ENGINE EXPERTS TO DEMONSTRATE MACHINES

Short Course Students Will Get Practical Mechanical Information

Experts from nine factories will demonstrate their respective traction engines for the benefit of short course students in the Kansas State Agricultural college. Each representative will have an entire week allotted to him in which he will show the features of his machine.

For class purposes 11 tractors are now being used by the college. They are furnished by the manufacturers free of charge. The work is under the supervision of W. H. Sanders, instructor in farm motors.

WHERE DO INSECT PESTS WINTER? LEARN ANSWER

KNOWLEDGE WILL PROVE IMPORTANT IN CONTROL OF CROP ENEMIES, SAY COLLEGE ENTOMOLOGISTS—EXTERMINATION METHODS ARE ALWAYS HELP TO AGRICULTURE

While the average Kansan has little idea of where the insect pests spend the winter, yet this knowledge, say the entomologists in the Kansas State Agricultural college, is of the utmost importance to the farmer in working out and applying methods of control.

The entomologists explain that most of the insects in the winter season are in a state in which they are readily accessible to control, and that generally the best methods of control are conducive to better agriculture regardless of whether or not the insects are actually present. This is particularly true of means employed in exterminating the staple crop insects.

"The staple crop insects—the field crop pests—spend the winter in all stages," says James W. McCulloch, assistant in entomology in charge of staple crop insect investigation; "that is, one group of insects may live through the winter as adults, another may hibernate as larvae, and still another may exist in the egg stage."

CHINCH BUG STAYS IN GRASS

The chinch bug, states Mr. McCulloch, spends the winter as an adult in clump forming grass, such as blue-stem and bunch grass. Burning grass is a good practice.

The corn ear worm winters as a pupa in its pupal cell from two to six inches below the surface of the ground. The "flaxseed," or Hessian fly pupa may be found in early sown or volunteer wheat or in wheat stubble. It may be discovered under the sheaths of the wheat stock.

The grasshopper remains in the egg stage throughout the winter. The eggs are in capsules at a depth of from half an inch to an inch below the surface of the ground along the road side, in alfalfa fields, and in almost any uncultivated land.

Corn bill bugs pass the winter as adults in the taproots of corn plants.

WATCH FOR HESSIAN FLY

The Hessian fly is well known as a serious menace in Kansas. "If the volunteer and the regular crop of early sown wheat are examined and are found infected with the fly, the little brown flaxseed like objects may easily be found just above the crown of the plant between the leaf sheath and the stalk," says George A. Dean, professor of entomology. "The winter is passed in this stage and the main spring brood of the fly emerges from these flaxseeds from the last few days of March to the last of April.

"The flies live only a few days, but during that time deposit from 100 to 300 of their eggs in the grooves along the upper surface of the wheat leaves. It should be understood that this brood of flies is just as apt, and probably more so, to lay its eggs on late sown as on early sown or on volunteer wheat, especially if this late sown wheat adjoins an early sown field or any volunteer wheat that was badly infected with the fly.

"This is true, not only because the adult female prefers the tender and more succulent plants upon which to lay her eggs, but also because the early sown and volunteer plants are often killed. Again, there may be a considerable amount of volunteer wheat in the late sown fields, and the spring brood of flies comes from the volunteer and the early sown wheat.

EXTRA BROOD MAY COME

"The eggs hatch in from four to eight days and the young maggots work their way down the leaf to a place between the leaf sheath and the stalk where the leaf has its origin. Here the maggots feed, grow, and in a few weeks reach maturity. Many of the maggots that hatch from early laid eggs reach maturity, transform to flaxseeds and emerge as flies the last of May. Thus we find an extra spring brood, or what is known as the sup-

plementary spring brood. The flies of this brood lay their eggs upon the leaves of wheat and cause more or less injury to the crop clear up to harvest time.

"After harvest, the flaxseeds—the stage in which the flies pass the early summer—will be found just above the crown of the plant or just above one of the joints, and here they remain in the stubble until the last of August, when the flies of the fall brood begin to emerge and continue to emerge until nearly the middle of October, to infest the volunteer and early sown wheat.

"The life cycle is repeated, and after the first of November the flaxseed stage is found just above the crown between the leaf sheath and the stalk. Under favorable conditions, a brood of flies may also appear during mid-summer, as it did last summer, and develop on the volunteer wheat.

SOMETIMES EMERGE IN NOVEMBER

"Occasionally, a small supplementary brood of flies emerge from the wheat late in November. This was the case in the falls of 1914 and 1915. The length of the life cycle is extremely variable, due almost entirely to climatic conditions. Dry, cool weather retards the growth of the insect, while moist, warm weather or favorable growing conditions, hasten it. Excessive dry weather and heat also retard the development."

In combating the Hessian fly, Mr. Dean points out, the most important thing and the one that the experiment station has always placed stress upon is the destruction of all volunteer wheat. Four things are emphasized: thorough preparation of the seedbed, destruction of all volunteer wheat, late sowing, and co-operation.

DOCTOR WATERS WILL TELL BROTHERHOOD ABOUT PLAY

President of College to Address Manhattan Organization Next Month

"Play" will be the subject of an address by Dr. Henry Jackson Waters, president of the college, before the Manhattan Christian brotherhood February 15. The organization is making an effort to obtain better facilities for organized play in Manhattan.

The Rev. Roy B. Guild of Topeka, executive secretary of the Commission on Federated Movements, will address the brotherhood March 13 and the student assembly of the college on the following day.

A. M. Johnston, a Manhattan lawyer, is the new president of the brotherhood. Dr. J. E. Kammeyer, professor of economics in the college and president of the Manhattan Commercial club, has been added to the executive committee.

The purpose of the organization, as officially stated, is "to promote cooperative social control for the welfare of the community by the application of Christian principles to public affairs."

MISS HAGUE CONTRIBUTES TO UNIVERSITY SCIENCE SERIES

Member of College Zoology Department Publishes Scholarly Paper

The current number of the Kansas University Science Bulletin contains a paper on "The Numerical Relation of Spermatozoa to Sertoli Cells," by Miss Florence S. Hague of the zoology department of the college. This paper is a report of preliminary research by Miss Hague on the male germ cells of mammals. The work is fundamental to the practical subjects of sex determination and heredity.

Most of the work referred to in the paper was done while Miss Hague was in the university, but has been continued in the agricultural college.

GET READY FOR SERVICE

FOREIGN STUDENTS WILL TEACH COUNTRYMEN MODERN METHODS

Look to America as Mecca of Learning—Many Are Studying Agriculture for Use in Their Native Lands—Some Will Stay Here

The Kansas State Agricultural college contributes more than its share among the institutions of higher learning in the United States in preparing foreign students for service in their respective countries.

"No more do foreigners look upon America as a country of business adventure or a haven for the politically or religiously persecuted, but because of her remarkable progress as a Mecca of learning," is the comment made by Bagdasar K. Baghdigian, an Armenian student in the department of industrial journalism, who is a leader among the foreigners in the college. "Kansas offers an excellent opportunity for foreign students who desire to specialize in agriculture or who wish technical training in engineering and other subjects."

Many of the foreigners will return to their native lands and will show the people the Kansas way of doing things. Others will remain in this country—some of them in Kansas—and will become good American citizens.

UNITE IN COSMOPOLITAN CLUB

Foreign students are brought together in the Kansas State Agricultural college in the Cosmopolitan club, the aim of which—through constructive programs and socials—is to create a sense of fellowship. Fifteen nationalities are represented in this organization.

These students tell in their own words the purposes for which they are studying.

"I chose the study of agriculture because I felt that this is just as much a science as is medicine and that my country, China, needs modern farming methods if she is to feed and clothe properly her vast population," says E. Loy Shim, a senior in the college.

"While China is one of the oldest agricultural countries and is noted for her intensive methods of cultivation, yet she has much to learn from America."

CHINA WASTES WATER POWER

Foo Y. Lim, who is studying electrical engineering in the college, says: "There are many waterfalls in China and much water power is wasted. When I complete my course I hope to go back and help construct power plants to generate electricity and use it for manufacturing and other purposes."

"I came to the Kansas State Agricultural college to complete my course because I found that the middle west is the live stock state," explains S. H. Taam of Canton college, China. "While here I mean to have an insight of American social, educational, political, and religious life."

"The spirit of democracy is conspicuous throughout this country. I admire such a spirit and I shall try with all my heart, on my return, to diffuse into the minds of my countrymen the meaning of democracy."

Kim A. Ching, another Chinese student, says: "The frequent famines in China, due to shortage in crops as well as the lack of proper transportation facilities, inspired me to take up the study of agriculture in America so that I may be of aid in ameliorating the conditions of suffering in my native country."

FARMERS DON'T KNOW ROTATION

"Our soil has deteriorated because of the constant growing of rice and lack of knowledge of rotation. Information concerning dry farming that we acquire here will enable us to grow wheat on the uplands, not only as a side crop but also as an insurance against the famine which is caused by the destruction of crops due to flood water."

"Our horses and our live stock need to be improved and our experiment stations must be increased. On my return I hope to help solve these problems."

"The Chinese students in America have a two-fold mission," states Philip H. Young of China. "They must acquire all the knowledge they can as well as live lives that will be typical of China. This will create a better understanding of our people in the minds of Americans and hence foster a closer relationship between the two nations."

"What China needs agriculturally is improvement that can meet growing conditions. My aim is to help meet this need."

TO HELP OWN PEOPLE

"I am preparing myself for greater usefulness to myself as well as to my fellow men," says M. M. Bornigian, an Armenian student from Sivas, Asia Minor.

Mr. Bornigian left his native country for the sole purpose of acquiring scientific knowledge of agriculture with the hope of returning and devoting himself to the betterment of the economic conditions of his people. Since then, however, Armenia has practically been wiped out and thus has left all the Armenian students in suspense.

"Since the ideal life is the life of service the only way I can live is to do good to my fellow men," says Bagdasar K. Baghdigian, Armenian.

"Mexico's wounds must be healed by her own people," declared Ygacis Gomez, the son of the ex-minister of the department of public instruction under the provisional government of President Francisco de la Barra. "When I have completed my course here I shall study in the University of Mexico and become thoroughly familiar with the agricultural conditions and demands of our country, which will enable me to be of greater service to a people whose useful energies have been misdirected by selfish and ambitious men."

William F. Taylor, who is taking the general science course, and was born in Mexico of English parentage, will devote himself to research work either in the country of his birth or in one of the Latin-American republics.

BURR WOULD ESTABLISH ARMY OF CONSERVATION

Rural Service Director Objects to Military Preparation for Destructive Purposes in Modern Democracy

An army for a democracy in the twentieth century should be an army of conservation rather than an army of destruction, according to the opinion expressed in the current number of the Survey by Walter Burr, director of rural service in the Kansas State Agricultural college.

Concerning the two possible purposes of armies Mr. Burr writes:

"In a peace-loving nation, an army of destruction is paid to be kept in trained idleness. The people are always hoping it will not have to be used, and yet are always afraid to dismiss it for fear there will be some killing to do. The army is maintained in peace or war for the one purpose of making war on human beings—of destroying life—of killing. And 'killing' is certainly not the business of a Christian nation!"

"The business of a Christian nation is to conserve life. This is in keeping with the great proclamation: 'I am come that ye may have life, and have it more abundantly.'

"This national business, if organized on a plan of sufficient scope to be effective, is one that will require a greater army than that one which is now maintained to destroy life. Here, then, is a nation that, under the old law, maintained an army of destruction.

That nation has become Christianized, and cannot righteously maintain such an army. Then in accord with its new ideals of the Christian democracy, it will of necessity maintain an army of conservation.

"The great conservation movement in America has already paved the way for changing our war department into a conservation department. When a nation goes out of the business of aggressive expansion, it must go into the business of internal development.

This development will be in the domain of natural resources."

HOW TO MAKE HOTBED

MRS. FREEMAN GIVES SUGGESTIONS FROM LONG EXPERIENCE

Mother of College Alumni Offers Advice of Practical Value to Gardeners—Prairie Hay Is Most Desirable Litter—Method of Preparation Simple

Eighty-two years old, Mrs. Freeman, of Chicago, staunch friend of the Kansas State Agricultural college and mother of two alumni and one former student of the institution, has not lost her interest in the things of the soil. She has just written a most practical and readable article on making a hotbed, and it has the horticultural approval of Albert Dickens, professor in the college and a real honest-to-goodness gardener.

"Hotbeds are among my earliest recollections," writes C. E. Freeman, '89, consulting engineer, in sending his mother's article. "It was my detested evening chore, before I wore suspenders, to cover up a whole raft of them just when I wanted to do something else. At one time father operated one of the largest market gardens near Topeka. The family's experience in this line covered a period of over 30 years."

Here is what Mrs. Freeman has to say about making the hotbed:

PLENTY OF LITTER NEEDED

"First get manure with plenty of litter in it. Fine litter is better than coarse, prairie hay being best, but something else will do if well mixed. The manure should be fresh, never having heated. If enough for the bed can not be obtained at once, keep the manure spread out until the necessary amount is accumulated. Also protect it from rain and snow.

"To prepare the manure for the hotbed, put it into a neat pile and let it heat. As soon as steam can be seen rising from it, fork it over into another pile, mixing it well and leaving no bunches. Three times it should be forked over that way. Never let it stand after it begins to steam.

"To prepare the hotbed, level a place on top of the ground where the bed is wanted. Do not dig a pit. Make the bed on top of the ground. Fork the manure on to the place, mixing it well again, and make it smooth and uniformly deep all over. The depth should be 16 or 18 inches after the manure is pressed down. Make the manure bed six or more inches larger than the wooden frame which is to be placed on it. Do not step on the manure while placing it in the bed. Never tramp the manure at all. After it is all placed, take two broad planks and lay them across the bed at one end. Step on the first one to compact the manure under it, then on the second one. Take the plank from behind and lay it in front and step on it there, and so on for the length of the bed.

MIXTURE MUST BE RIGHT

"Now put the wooden frame in place and cover the manure inside the frame with rich soil to a depth of four inches after it settles. Pack manure around the outside of the frame up within two inches of the top. Then plant your seeds or use the bed in any other way desired.

"The bed will not get too hot if the mixture is just right. The proper proportion of litter and manure is rather hard to judge. One has to learn that by experimenting. Too much manure makes the bed too hot. About one part in bulk of manure and three parts of litter is, perhaps, a fair proportion.

"If the bed should get too hot, which can be ascertained by feeling with the hand, thrust a fork handle horizontally into the bed half way or more across in one or two places, about nine inches from the ground. Leave the holes open 10 or 15 minutes or until the bed cools sufficiently, then close the holes tightly.

"A bed made in the above way will hold the heat about three weeks if properly cared for. The manure will not be burned and will be suitable to put on the land after it has served its purpose in the hotbed."

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Number 16

NATURE FOR A TEACHER

IT MEANS SUCCESS IN CALF FEEDING,
SAYS PROFESSOR REED

Skim Milk Is Economical and Successful,
Points Out Expert—All Utensils
Must Be Kept Sanitary—
Use Individual Pens

In the study of present day agriculture it is necessary to go back to Mother Nature for many lessons in stock feeding, points out O. E. Reed, professor of dairy husbandry in the Kansas State Agricultural college. This is especially important in the feeding of calves. In nature the young calf gets its milk at short intervals, at a uniform temperature, and it is always sweet, clean, and wholesome. The success of the calf feeder will depend upon his ability to imitate nature.

The young calf should not remain with its dam for a longer period than three days. A shorter time is better. The calf should receive the first milk drawn from the udder of its dam. This milk is known as colostrum milk. It has a valuable laxative effect. If the cow dies so that the colostrum cannot be obtained, it is advisable to give the calf a dose of castor oil.

The stomach of the calf is small and will not hold a large quantity of milk at one time. This makes it necessary to feed it as often as practical. Overfeeding will cause indigestion and may result in the death of the calf, says Professor Reed.

SELL CREAM TO FACTORY

The newly born calf should receive from eight to 10 pounds of whole milk daily, depending upon the size and strength of the animal. The milk can gradually be displaced by skim milk until at the age of four weeks the calf is receiving no whole milk at all. Experiment and actual farm practice unite in commanding the use of skim milk.

"Many successful dairymen are skimming a part of their milk and selling the sweet cream to the ice cream factories," says Mr. Reed. "This practice leaves the desired amount of skim milk on the farm to be used for calf feeding, and allows a fair price for the product."

"The well bred calf is made or unmade the first 12 months of its life. Good dairymen are often poor calf raisers, and this has resulted in the stunted calf we see on the average farm. Calves are well cared for in Holland and Denmark, which fact has had much to do with the development of the industry in those countries. The future success of the dairyman depends so largely upon the care of his calves that too much emphasis cannot be placed upon this subject."

"The average man engaged in the milk business does not feel that he can afford to raise his calves on milk and consequently the calf is fed only for a short time. He knows that he must obtain a better market than is offered by the creamery that is buying sour cream."

LOW PRICE A HINDRANCE

"The low price of cream has been the principal reason why so little milk has been skimmed on the farm that has a market for the whole milk."

The milk must always be uniform in temperature and sweetness. The calf can be raised on sour milk but it must be uniform if the best results are to be obtained.

Pails in which the calves are fed should be sterilized frequently. They should be washed each time after being used. It should be the endeavor of the calf feeder to keep the pails in which the calves are fed as sanitary as the milk pails are kept. The protein requirement of the calf will be furnished in the casein and albumin of the skim milk. A substitute for the

fat that has been removed from the milk can be found in the form of such concentrated feeds as corn and bran. The calf will be eating enough of this feed at the age of four weeks so that it will no longer need the fat furnished in the whole milk. The grain must never be mixed with the milk and fed as a slop, because such practice, Professor Reed points out, will result in digestive disorders.

FEED WELL MATURED HAY

The calf should receive milk until it is six or eight months old if one expects to grow large calves such as he would have if they were allowed to nurse their dams. Many of the successful breeders of dairy cattle feed milk until the calves are one year old. The calf will begin to eat hay when but a few days old. It should be fed a good quality of well matured hay, because immature hay is laxative and may cause digestive disorders.

The water which the milk contains will not be sufficient to meet the water requirements of the growing calves. Good, clean water should be kept before the calves at all times. If this is not practical, they should be watered from pails at regular intervals. Care must be used in order that the calf does not drink too much when watered from a pail. It is only natural for the calf to gorge itself on anything given in this manner. This is one of the main causes of the "pot bellied" calf.

HELPS SALE OF CALVES

Another point worth noting is that the calf should be kept in a well bedded stall, says Professor Reed. The individual pen is worth all it costs because a case of the scours can be easily detected before it develops far.

The individual pen is made just large enough to accommodate one calf nicely. It should be approximately 3 feet 8 inches wide by 5 feet long. This gives the small calf plenty of room and shows it off to advantage to the prospective buyer.

Where there is less room the wooden stanchion will give satisfactory results. The stanchion should be made from 3 to 3½ feet high and 18 to 24 inches from center to center with a neck space 4 to 5 inches in width.

IT'S THE MOLE'S GUESTS WHO EAT FARMER'S CORN

Hospitable Animals Make Runways and
Then the Mice Use Them—Zoologist
Advises Use of Traps

Moles eat worms, not corn, according to Dr. R. K. Nabours, zoologist of the Kansas State Agricultural college.

Because moles make their runs along rows of freshly planted corn and then the corn fails to come up, it is the common belief that the moles have eaten it and are therefore responsible for the poor stand of corn.

The immediate responsibility, however, Doctor Nabours points out, rests on the mole's guests—meadow mice, white footed field mice, and common house mice. The mole runs furnish concealment and lines of traffic for these small animals which cannot dig runways of their own. It has been found by experiment that moles eat earthworms, grubs, insects, and other animal life but vegetable matter scarcely at all.

To avoid the damage it is easier to kill the moles than the mice, and thus destroy the lines of traffic. Since moles do not eat grains, seeds, tubers, and the like, it has been found almost impossible to kill them by means of poisons as in the case of gophers and prairie dogs.

Trapping therefore is the best means of extermination. While it requires a good deal of time and attention, moles may be completely eradicated from any man's premises and farm. Additional information is obtainable from the zoology department of the college.

WHY IS CORN YIELD LOW?

GROWTH UNDER ILL ADAPTED CON-
DITIONS, ANSWERS CUNNINGHAM

Many Produce Crop at Loss, Finds College
Investigator—Obtain Varieties Suited
to Your Region, and Get Seed
from Near Home

Why is the average acre yield of corn in Kansas less than 20 bushels? The growing of corn under conditions to which it is not adapted is the principal reason, according to C. C. Cunningham, assistant professor of agronomy in the agricultural college, who has obtained data from every part of the state. This means in many cases, he points out, the production of corn at a loss.

Other reasons why the corn yield is low are the decrease in soil fertility and the failure to rotate crops properly.

Mr. Cunningham has presented his conclusions in a practical bulletin obtainable from the experiment station by any resident of Kansas. It includes a map of Kansas showing the state divided into areas based on the adaptability of corn and the grain sorghums respectively to the area. Another map shows the state divided into nine corn-growing regions, and Mr. Cunningham points out the varieties suitable for each section.

Practically all phases of growing corn under Kansas conditions are treated, including rotations, varieties, methods of planting, preparation of the seed, cultivation, harvesting and storing, selection and care of seed, and insects injurious to corn.

DON'T DISCARD GOOD SEED

Mr. Cunningham takes a rap at the notion that new seed should be obtained every few years, and supports his argument with the results of experiments at the college and tests made with the co-operation of farmers in various parts of the state.

"The only time when it is desirable to change seed," says Mr. Cunningham, "is when an inferior variety of corn has been grown or where the farmer has made no effort to select the seed properly year after year. In these cases it will pay to secure good seed from a farmer near-by who properly selects his seed, provided the soil conditions of the two farms are similar. If, for some reason, home grown seed is not good in vitality or quality, better results can be obtained by securing first class seed grown as near home and under conditions as nearly like those under which it will be planted as possible."

"Every farmer should select and save his own seed, as the corn which was grown on his farm is likely to be better suited for planting there than that grown elsewhere. Many farmers, however, would rather buy seed than go to the trouble of properly selecting and saving it."

CHANCE FOR PROGRESSIVE FARMER

"For this reason there will always be an opportunity in every locality for one or more farmers who are capable of producing good seed corn to build up a local trade, and thus dispose of a part of their crop at seed corn prices. The community seed corn grower or breeder not only would be engaged in a profitable business for himself, but would furnish an opportunity for others in his locality to obtain seed suitable for growing on their farms."

Seasonal conditions are regarded by this expert as dominant factors in growing corn. These conditions, he says, vary so greatly from year to year that no one method of seed bed preparation, planting, or cultivation of corn will consistently give better yields than every other method. The farmer who by the exercise of good judgment uses methods of tillage that

meet the seasonal conditions to greatest advantage is the one who, on the average, is most successful.

The critical period in the growth of corn is during July and August, and drought and hot winds during these months may destroy in a few days the accumulated benefits derived from thorough work in preparing the seedbed and caring for the corn during the early part of the season. Often, because of drought during the latter stage of the growth of the corn, that which has the greatest capacity to yield is, because of the greater development of foliage, the first to dry up. On the other hand, corn that has made a smaller growth because of poor cultural methods survives the drought and produces the greatest yield of grain.

The farmer who consistently practices methods that conserve moisture and develop plant food, and who plants his crop opportunely, will, however, Mr. Cunningham shows, obtain the best average yields for a period of years.

SOIL SURVEYS MADE IN TWO KANSAS COUNTIES

Reports Are Published for Cherokee and
Reno—Investigations by Station and
Department of Agriculture

Reports of soil surveys of Cherokee and Reno counties have just been published by the Kansas Agricultural Experiment station. Each report includes a map showing the soils of the county and the kinds of soil on each farm. The reports discuss the formation, characteristics, and crop adaptation of the soils, discuss the soil problems and give chemical analyses of the various soils.

The work in each case was done by the college in co-operation with the bureau of soils of the United States department of agriculture. The field work in Reno county was done by William C. Carter, Jr., F. V. Emerson, A. E. Korher, and Allen L. Higgins of the department of agriculture, and Charles S. Myszka and H. C. Lint of the experiment station. P. O. Wood of the department of agriculture and Prof. R. I. Throckmorton of the experiment station did the field work in Cherokee county. Professors C. O. Swanson and C. E. Millar attended to the chemical analyses while both reports were written by Professors L. E. Call, R. I. Throckmorton, and C. O. Swanson. The mechanical analyses of soil types were made by the federal bureau of soils.

STUDENTS WILL GET CHANCE TO SEE AMERICAN PAINTINGS

Valuable Art Exhibit to Be Shown at Col-
lege—Program of Addresses Planned

The American Federation of Arts traveling exhibit, consisting of twelve originals by living American artists, will be at the Kansas State Agricultural college from February 4 to 18, under the auspices of the home art department. There are landscape, portraits and still life pictures, and the pictures range in value from \$1,000 to \$5,000.

A series of talks on what to see in pictures, the development of American art, American landscape painting, and other subjects, will be given. The exhibit will be free for all students.

DOCTOR WATERS TO DISCUSS WESTERN KANSAS FARMING

Will Make Address on President's Day at
Fort Hays Normal School

Dr. H. J. Waters, president of the college, will speak at the Fort Hays Kansas Normal school Tuesday on "What the Agricultural College Is Doing for the Western Farmer." The address will be delivered at the exercises of President's day, one of the events of the year at the Hays institution.

Doctor Waters was the principal speaker Monday evening before the Cathedral club of Grace cathedral, Topeka.

MONTH MORE FOR POSTS

MATERIAL FOR FENCES SHOULD BE
CUT BEFORE MARCH 1

Follow Practice of Big Industrial Con-
cerns, Advises State Forester—Preserv-
ative Treatment of Soft Woods Has
Been Found Practical

It is not necessary to cut fence posts in the dark of the moon or on the second Tuesday in August, according to Charles A. Scott, Kansas state forester. A darkened moon or a precise Tuesday may not always bring the best results if that is the only method followed to obtain properly seasoned posts.

"The proper time can best be judged by the practices of large industrial concerns which use great quantities of such kind of wood," says Mr. Scott. "Railroads, in buying large quantities of ties, specify in the contracts that the trees shall be cut between November 1 and March 1.

"Cutting fence posts in these months is seasonable work. More important, this is the seasonable time of the year for cutting fence posts. The wood will dry more slowly than it will at any other time of the year and this will allow the post to dry in a natural way.

POST SHOULD DRY SLOWLY

"When a post dries properly, the drying is slow enough to allow the moisture to escape through the ends. If a tree for fence posts or any other purpose is cut out of season and dries too rapidly, the result is season checking or cracking.

"The reason is that in addition to drying out through the ends, the outer surface of the post also loses moisture, but in much larger quantities and more rapidly than is the case with the interior wood. With the drying it must shrink and the result can only be large cracks in the tissue, reaching sometimes to the heart of the stick, and rendering the product almost worthless."

Fence posts made from heavy bark trees should be peeled before they are set, according to the state forester. The bark fits loosely and allows moisture to collect beneath it. This is a favorable condition for the development of fungus which will soon rot the post.

DON'T PEEL BARK OFF

It is not necessary to peel the bark from catalpa or hedge posts. It shrinks and sets with the post as it dries and is not objectionable.

Experiments in post preservative treatment have been carried on by several of the state experiment stations as well as the forest service of the United States department of agriculture. It will take years to determine the full value of such treatment, but even now the condition of the treated posts warrants the statement that the preservative treatment is entirely practical. Good results will be obtained in the treatment of the posts of native woods which are ordinarily short lived and unsatisfactory.

"The ash and the elm that grow along the borders of Kansas streams make posts, when treated, that will last longer than the white cedar posts that are sold at the lumber yards," comments Mr. Scott.

"Beveling the tops of posts aids in increasing the durability of the wood by preventing the excessive absorption of water. Large softwood posts with flat tops will absorb much moisture, and often it is here that the first evidence of decay is found."

AGGIES WIN FROM TEACHERS IN ROUGH BASKETBALL GAME

College Team Defeats Normal School Play-
ers on Local Court

In a rough and tumble game on Nichols court Thursday evening, the Aggie team defeated the Kansas State Normal basketball five by a score of 26 to 19.

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J. D. WALTERS.....Local Editor

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SATURDAY, JANUARY 29, 1916

Pancho Villa may be put down, for the present at least, among the missing.

The news that a son of King George got his fingers pinched twice in the railroad yards near Eton will doubtless stimulate enormous military enthusiasm.

The newspaper is the modern information bureau. A Missouri paper announces that it received 300 calls a few nights ago. Of the 300, 299 asked questions.

It is worth observing, in making up your opinion of the world's sanity, that there are persons who clip from the newspaper and keep Mary Pickford's statement that she puts glycerin, rose water, and powder on her face.

A BASIC SUBJECT

While its value is not always so apparent as that of an investigation of a new forage crop or an experiment in cattle feeding, soil study must be recognized by the thinking farmer as fundamentally important.

This becomes more evident the longer a state or country is settled. Agriculture in any place is usually rather hit-or-miss for the first few years. The early settlers are often men of little experience in agriculture or of experience under widely different conditions. Land that has been untilled for centuries is likely to produce abundant yields at the start. Besides, the newcomers always take the best land available.

As time goes on, agriculture becomes more scientific. The country becomes more thickly settled, and it is necessary to utilize all the land possible. Moreover, careful crop rotation becomes essential if the productivity of the soil is to be maintained. At this point, the careful farmer will welcome the assistance of a scientific soil survey. It will furnish him with facts which he could obtain otherwise only by the long process of trial and error.

Kansas has already made a beginning in detailed soil surveys by counties. Reports of two of these have just been published. They will be appreciated by all thinking farmers in those counties, and will be, moreover, of permanent value.

It is to be hoped that further surveys may be undertaken in the near future, for Kansas is at the point where it can obtain enormous benefit from such work. The soil is as fundamental to crop growing as feed is to animal growth.

PUBLICITY THAT GETS SOMEWHERE

If there were more publicity men like Imri Zumwalt, the genial editor of the Bonner Springs Chieftain, there would be less criticism of press agents. Mr. Zumwalt is assistant to the state fire marshal and one of his duties is to look after the publicity of the office.

Mr. Zumwalt does not send out stories telling what he and his co-workers did last year to put out Kansas fires or what they plan to do this year. Instead, he tells the public what it can do toward fire prevention, and, as any sensible man knows, the public can do ten times as much as all the fire insurance companies, fire marshals, and firemen in the country. All so generously attested.

these are doing effective work, but the support and efforts of the whole public are necessary if any public project is to be carried out as it should be.

If the people will wake up to the fact that practically all fires are preventable and will follow Mr. Zumwalt's suggestions for preventing them, it will go a long way toward saving the \$260,000,000 which he points out the United States loses annually through fire.

PATTERNING AFTER A CIGARETTE

A high school principal wants stories that mention cigarettes in the mouths of brave young men, stricken from the newspapers and magazines. THE INDUSTRIALIST does not at the present moment recall such a story in any periodical, but is willing to admit that probably there is one in a million stories. If any boy has so little sense that he picks this one story out and patterns his life on it, censoring the papers won't help a bit. A fool can pick up justification for his foolishness anywhere.

FRESH AIR IN WINTER

A textbook on physiology used some years ago in many public schools stated that sufficient ventilation for a sleeping room was provided by a single window opened one inch for each person. Most people would choke in such a room now. Children today are taught, even in cold climates, to sleep with windows wide open. Office and factory workers find the night the one chance when they can have access to invigorating air.

An illustration of the modern feeling about fresh air was given the past week in Chicago. Fresh air coaches were run on the elevated trains, with windows wide open, to meet protests against stuffy cars. The fresh air cars were reported very popular.

Still there are a lot of people left who are fussy about fresh air. Even with temperatures up to 70, they fear the least stirring of air and live in terror of drafts. They begin to shiver the moment the thermometer gets down around 72. They look around crossly to see if someone has left a window open by a small crack. This is often the case with women workers in offices. They wear flimsy summer waists through the cool weather, and expect the rooms to be heated to fit their flimsy raiment.

The people who are most fearful of catching cold from fresh air are the very ones who suffer most from this cause. Arctic explorers never have this ailment. Outdoor workers in cold climates are commonly free from it. It is the hot-house life of unventilated stores and shops that inflames sensitive nasal passages. A room where a number of people work together usually has to be heated to suit the chilliest and thinnest blooded person of the whole lot.

If school children are sluggish, let the teacher throw the windows open and declare a recess. Then see how the youngsters brighten up. It would pay business people to air out their offices every other hour just to wake their clerks up.—Jefferson (Mo.) Democrat and Tribune.

THE MURPHYS' INHERITANCE

The question, Where do all the Smiths come from, or the Browns, or the Joneses? is still a favorite with some folk, there being little danger of an answer. But no one asks, Where do all the Murphys come from? because every one knows, though how so small an island could have been the cradle of such a mighty race will remain a mystery.

But the fact that it has been and still is was no doubt a powerful factor in determining the late William S. Murphy, a Harvard graduate and a member of the custom house force at Boston, to leave to Harvard university a fund of \$40,000 to assist deserving boys named Murphy to an education. Murphys multiply, but they do not lose their kinship; they spread, but each with his own map of Old Erin indelibly engraved upon his countenance. No matter how long may be the way to Tipperary, the common bond is never severed, as Mr. Murphy has

It seems a pity the Smiths and the Browns and the Joneses have no such common ancestry or distinctive origin. Otherwise some proud sons among them might be inspired to follow Mr. Murphy's example, to establish funds for the higher education of all deserving Smiths and Browns and Joneses, which would come reasonably near, together with the Murphy foundation, to providing for all the youths of the nation.

Can you still ask, What's in a name?—New York Tribune.

duction was smaller but prices ruled higher.

Increases in the mine production of silver were especially notable in Montana, Utah, and Arizona, and were considerable in Idaho, Alaska, New Mexico, and Texas; but large decreases were reported from Colorado and from Nevada, following similar decreases in 1914. Preliminary totals, based on ore marketed as distinguished from ore smelted, indicate a record output of nearly 74,000,000 ounces of silver from all domestic

Woman in the New Country Life

Sir Horace Plunkett

In the more intelligent scheme of the new country life, the economic position of woman is likely to be one of high importance. She enters largely into all three parts of our program—better farming, better business, better living. In the development of higher farming, for instance, she is better fitted than the more muscular but less patient animal, man, to carry on with care that work of milk records, egg records, etc., which underlies the selection on scientific lines of the more productive strains of cattle and poultry. And this kind of work is wanted in the study not only of animal, but also of plant life.

Again, in the sphere of better business, the housekeeping faculty of woman is an important asset, since a good system of farm accounts is one of the most valuable aids to successful farming. But it is, of course, in the third part of the program—better living—that woman's greatest opportunity lies. The woman makes the home life of the nation. But she desires also social life, and where she has the chance she develops it. Here it is that the establishment of the coöperative society, or union, gives an opening and a range of conditions in which the social usefulness of woman makes itself quickly felt. I do not think that I am laying too much stress on this matter, because the pleasures, the interests and the duties of society, properly so called—that is, the state of living on friendly terms with our neighbors—are always more central and important in the life of a woman than of a man. The man needs them, too, for without them he becomes a mere machine for making money, but the woman, deprived of them, tends to become a mere drudge. The new rural society economy (which implies a denser population occupying smaller holdings) must therefore include a generous provision for all those forms of social intercourse which specially appeal to women. The women's sections of the granges have done a great deal of useful work in this direction; we need a more general and complete application of the principles on which they act.

SPEAKING IN BILLIONS

A billion units are believed to be beyond the capacity of any human mind to grasp. But we are becoming accustomed to speaking of money in terms of the billion, with billion-dollar congresses, exports of a billion and the immensity of war finance.

A French newspaper, the better to impress its readers with the magnitude of "loan of victory," exceeding 14,000,000,000 francs—in our money \$2,800,000,000—reminds them that "only 1,007,212,000 minutes have elapsed since the death of Christ." That is certainly a striking allusion. Even counted in our money, the aggregate of dollars poured out of the "woolen stocking" of France is more than twice the number of minutes in the centuries since the dawn of the Christian era.

The imperial German treasurer has stated that the war debt for his country amounts already to \$10,000,000,000, and is being added to at the rate of half a billion a month. And with all the belligerents the debt is piling up so that it is counted in billions, while a billion itself cannot be counted or scarcely comprehended.—Providence Journal.

SILVER MINING IN 1915

The preliminary estimates of the United States geological survey and the bureau of the mint for 1915 indicate an output of 67,485,600 fine ounces of silver, valued at \$34,417,656. Although next to the record output of 1914 in quantity, according to H. D. McCaskey, of the survey, the value, based on the low average price of \$0.51 per fine ounce for 1915—the lowest in the history of the industry—was considerably below the values for 1914 and many previous years, when pro-

THE HILL

Rupert Brooke

Breathless, we flung us on the windy hill,
Laughed in the sun, and kissed the lovely grass.
You said, "Through glory and ecstasy we pass;
Wind, sun, and earth remain, the birds sing still,
When we are old, are old . . ." "And when we die
All's over that is ours; and life burns on
Through other lovers, other lips," said I,
—"Heart of my heart, our heaven is now, is won!"

"We are Earth's best, that learnt her lesson here.

Life is our cry. We have kept the faith!" we said;

"We shall go down with unreluctant tread

Rose-crowned into the darkness!" . . .

Proud we were,

And laughed, that had such brave true things to say.

—And then you suddenly cried, and turned away.

SUNFLOWERS

Motto for Commercial Clubs: "Every day will be suburban day buy and buy."

A Wichita druggist advertises 5,000 bottles of hair tonic free. He knows about how much it takes to cure baldness.

"WHOM WAS HE?" ASKED THE ATTORNEY

She admitted that she had a daughter by the man who she divorced in Chicago in 1895.—New York Times.

With the attitude of a man facing the world alone, an evangelist in Topeka insists that Pontius Pilate was a failure. Who, we ask, who ever thought he was a success?

A LEAP YEAR IDYL

Little Jack Horner

Squirmed in a corner

The prey of a skilled debutante.

He cried, "Let me flee."

But she climbed on his knee,

And replied, "Give you up, dear? I cawn't."

OUR HEROES

While J. M. Marshall was returning from his farm south of town Friday, December 3rd, and nearing the home of Mr. Will Dickson he heard some lady calling very pitifully for help in the yards, hitching his horse quickly he ran to her assistance, finding Mr. Dickson had fallen through a defective well top into the cistern, but had caught the curb at the top with both hands—was nearly exhausted and Mrs. Dickson could not pull him out, so Mr. Marshall took hold of one arm and Mrs. Dickson the other, thinking it would be easy to lift him, but no, Mr. Dickson had the down hill pull and they could not move him up at all. So Mr. Marshall told Mrs. Dickson to get him a rope and he would put it under his arms and thought he could raise him that way, but Mrs. Dickson being very much excited could not find a rope, so by that time Mr. Marshall had begun to exhaust and Mr. Dickson was growing weaker, so he began to call for more help. As it happened Mr. John Buck was dragging the roads and in calling the two gentlemen managed after about 5 minutes to relieve him by drawing him out of the well.

It seems Mr. Dickson has had his share of accidents of late, losing one of his eyes by driving a fence staple and a piece broke off and flew into it destroying it entirely.

But we may safely say that Mr. Marshall and Mr. Buck may have the distinction of being called two of Sallie's heroes, because they surely rescued Mr. Dickson from being drowned and saved his life. So people should be very careful and always see that the tops of their wells are very substantial and strong, don't neglect this.

—Marshall (Mo.) Democrat-News.

AMONG THE ALUMNI

Miss Edna Barber, '15, is teaching in Cambridge, Ida.

E. M. Parrish, '14, is farm extension agent for Bartlett school, Dalton, Mo.

Miss Kathrina Munger, '15, is teaching in a rural school near Edith, Kan.

Miss Martha Pittman, '06, is doing graduate work in Columbia university.

F. S. Blair, '13, who lives at Blue Rapids, was a recent college visitor.

E. F. Boettcher, '13, is draftsman in the United States war department at Washington, D. C.

W. S. Morrow, '15, has charge of the dairy herd owned by the state hospital at Vinita, Okla.

Miss Margaret Jones, '14, who has been at home at Barrett, visited on college hill this week.

J. W. Witmer, '13, is teaching manual training and mathematics in the Sabetha high school.

Miss Margaret Jones, '14, is visiting her sister, Miss Elma Jones, who is taking special work in the college.

Miss Margaret Walbridge, '14, who is teaching home economics in the Holton high school, expects to visit Manhattan today.

Miss Grace Barker, '15, writes that she is enjoying her work as instructor in home economics in the high school at Okmulgee, Okla.

J. M. McArthur, '15, is teaching agriculture and physics at the state normal school at Minot, N. D. He writes that he is enjoying his work.

George I. Walsh, '15, has taken the Manhattan agency for the New York Life Insurance company. He is also taking graduate work in the college.

Herbert Coith, '15, and J. H. Young, '14, are taking graduate work in the Ohio State university and are teaching in the department of chemistry there.

Miss Glendolyn Warren, '15, who is head of the domestic science and art department in Des Moines college, writes that she is enjoying her work.

Miss Margaret W. Schultz, '13, is enjoying her work as teacher of domestic science and physical training in the Cherokee (Okla.) high school.

A. E. Oman, '00, is this winter in charge of the government correspondence course for forest rangers, and has moved his headquarters from Weiser, Ida., to Ogden, Utah.

Miss Virginia Sherwood, '12, who is working in Prof. E. L. Holton's office, spent the week end with her sister, Miss Etta Sherwood, who is teaching home economics in the Cawker City high school.

J. B. Gingery, '10, who teachers in the college of agriculture of the University of Missouri, sends the assessment levied by the alumni association. He says that he enjoys his work, which keeps him busy most of the time.

F. P. Root, '14, is making a decided success of teaching agriculture in the Winfield high school. In addition to his work in the schools, he is promoting pig and corn contests among the boys of his school who live in the country.

Miss Ida Northrop, '13, is teaching in the Stevens county high school at Hugoton. She is assisting in some entertainments which are being given there to raise money for playground equipment. She likes her work and the people of Hugoton.

H. B. Holroyd, '03, is in the agricultural division of the immigration and industrial bureau of the Louisville and Nashville Railroad company. His headquarters are at Louisville. He has charge of work in animal husbandry, agronomy, and forestry.

Con M. Buck, '96, is again with the Santa Fe railway. He is in charge, as directing civil engineer, of 100 miles of track, comprising the passenger and freight switch yards of Kansas City, Kan. His duties require some of the most careful work on the entire line.

E. A. Vaughn, '12, is field assistant

in the entomology department of the Alabama Experiment station at Auburn. He writes that he is having an interesting time seeing historic places and hearing stories of the "lost cause" and the Ku Klux Klan. He says that Jayhawkers are few and far between.

R. S. Kellogg, '96, secretary of the National Lumber Manufacturers' association, visited his father and sister in Manhattan a few days ago. He was on the college campus for the first time in eight years, and was much impressed by the improvements that have been made.

The educational work being done by Milton Fairchild, former student in the college and son of the former president, is described in an article by Ray Stannard Baker in the current number of the American Magazine. Mr. Fairchild is carrying on a campaign for ethical instruction in the schools by modern methods.

R. E. Karper, '14, has resigned his position in Oklahoma to accept the superintendency of the Lubbock Experiment station at Lubbock, Tex. He succeeded there V. L. Cory, '04. The station is in the southern plains country, comprises 160 acres, and is in excellent condition. It is regarded as one of the best stations in Texas and has the hearty co-operation of all the people in the region and receives substantial aid from the state.

DEATHS

CLARO PENDON

Claro Pendon, '09, died of tuberculosis October 20, after an illness of six months. His death occurred at his home in Iloilo, P. I.

Mr. Pendon had been connected with the bureau of agriculture of the Philippine islands since his graduation from college. He was recently inspector in the corn demonstration department in Capiz province.

MRS. EDWARD HOWARD HODGSON

Mrs. Edward Howard Hodgson, aged 31 years, died January 5 at her home in Little River. She is survived by her husband, who was a member of the college class of 1903, four children, her mother, and three brothers.

Mrs. Hodgson, who before her marriage was Miss Flora Cleveland Perry, is remembered by many of the alumni as a former student in home economics. She was a young woman of broad interests and many warm friendships.

BIRTHS

Born, to Mr. Walter G. Ward, '12, and Mrs. Ward, a former college student, at Fargo, N. D., on January 7, a son, Leland Chester.

PORLTAND ALUMNI MEET

The Kansas State Agricultural college alumni and former students of Portland and vicinity met in an informal gathering at the home of Mr. and Mrs. H. W. Stone Wednesday evening, December 29. All had a very enjoyable time talking over college days. Dainty refreshments were served by Miss Ruth Stone, daughter of the host and hostess.

Those present were Mr. and Mrs. E. C. Joss, Mr. and Mrs. W. W. Lawton, Mr. and Mrs. C. C. Coates, Mr. and Mrs. H. W. Stone, Mr. and Mrs. Edwin Beckwith, Mr. and Mrs. L. P. Keeler, Mr. and Mrs. H. A. Darnall, Mr. and Mrs. E. E. Faville, Mrs. R. J. Brock, Mrs. Victor Emrick, Mrs. Elmer Waldele, Miss Lura Houghton, Miss Ruth Stone, Miss Edna Waldele, Mr. H. H. Tracy, Mr. George Moffatt, Mr. W. A. Young, Mr. James West, Mr. Ellis Thayer, and Mr. Donald Thayer.

EASTERN COLLEGE WILL USE DOCTOR HARMAN'S TEXTBOOK

Massachusetts Institute of Technology Adopts Work by Local Professor

"Laboratory Outlines for Embryology," a textbook prepared by Dr. Mary T. Harman, assistant professor of zoölogy in the agricultural college, has been adopted for use in the classes in embryology in the Massachusetts Institute of Technology at Boston.

YES, ONE FOR THE T. B. M.

LUND TELLS HIM HOW TO CUT DOWN FURNACE TROUBLE

Fuel and Air Are Important Matters, Says College Heating Expert—Nut Coal Is Usually Most Satisfactory—What System to Use

Does your furnace give you trouble? Does it fairly eat up coal? Then here are some timely suggestions by Jacob Lund, superintendent of the heat and power plant at the Kansas State Agricultural college.

"The question of fuel is of utmost importance," says Mr. Lund. "In the west soft coal is generally used and this requires large air passages in the furnace. This coal deposits much soot, but the air passage must be kept clean, or at least fairly so."

"To give coal the proper amount of air requires some judgment and experience. The ashes should always be kept out of the pit, for otherwise the grates are apt to be destroyed by becoming too hot. When the pit is full of ashes, free access of air to the fuel is hindered. The dampers in the air passage ways should check the burning of the coal when the furnace becomes too hot."

CHARGE FURNACE FREQUENTLY

"It is also economical to charge the furnace frequently with comparatively small amounts of coal, as otherwise the fuel bed will become too thick and a large amount of coal will be driven off in the form of unconsumed gases. This condition probably has been experienced by nearly every one who has fired a furnace. Gas accumulates and sometimes even causes small explosions.

"Cover the fire with one and a half to two inches of fresh coal, or put a thin layer on one side and much more on the other, so that the air passing through the hot coals will mingle with the gases that are distilled from the green coal. This will make the gas hot enough to burn."

REGULATE DAMPER PROPERLY

"At this point the question to decide is whether it is more economical to burn a little more coal or go down often and charge the furnace. The proper regulation of the damper has much to do with the economical way of burning coal. This regulation must be studied for each individual furnace because no two furnaces have the same amount of draft."

"The theory of burning coal rests on the fact that coal, which is mostly carbon, must combine with the oxygen of the air in burning. The gases formed by burning coal may be of two kinds. The carbon may be completely burned or it may be partly burned. When the carbon unites with an equal part of oxygen it is only partly burned. It requires twice as much oxygen as carbon for complete burning."

"When the burning of these gases is complete there is nearly three times as much heat given off by a pound of coal as when the consumption is incomplete or when carbon is united only with an equal amount of oxygen."

WHAT COAL TO BURN

"Under ordinary conditions nut coal gives most satisfaction in the furnace. Screening or fine coal packs too closely. Lump coal usually forms a fire that is too open for the best results. Much, however, depends on how well the chimney draws. If the chimney draws rather strongly for the nut coal, mix fine coal with it, and vice versa."

"Hot air furnaces sometimes fail to give satisfaction because the hot air flues are not tight and allow the cold air to go into the flues, thus causing poor circulation of air. Though the furnace may be hot, the heat is not distributed. Sometimes there are cracks in the furnace itself and the gases of combustion may enter the hot air chamber and be carried to the rooms. Again, the hot air may leak into the furnace above the fire and go out of the chimney. Occasionally the fresh air intake is not of sufficient size or is poorly situated. All of these should be looked after by an experienced man."

"The hot water furnace in dwelling

houses probably is the most satisfactory way of heating because the water will keep on circulating so long as it is hotter than the surrounding atmosphere. The amount of heat can be easily regulated. This type of furnace can be left to take care of itself for a considerable length of time because water will take up a large amount of heat from the burning fuel and radiation will keep on and give off heat so long as water circulates."

The steam heating system, Mr. Lund states, does not cost so much for installation. You do not need so much radiation in a room because your radiator can be made hotter. A slight leak in any place will not throw a large quantity of water into a house and the damage will be small from it.

It can be carried farther in a practical working system for less cost than a hot water system. On the other hand, as soon as the pressure goes down in the boiler, the radiator cools off quickly. The radiation is either hot or cold and it cannot be graded to any intermediate point as can the hot water system.

OUT OF COLLEGE BUT TWO YEARS, HOLDS \$4,000 JOB

Miss Mary Isabel Love, Formerly Self-supporting Student Here, Manages Big Eastern Tea Room

Eight years ago Miss Mary Isabel Love was a pupil in a high school of a small Kansas city, where she was supporting with difficulty herself and a younger brother. Now, after a few years of experience as a teacher and an agricultural college student, she is drawing \$4,000 a year as manager of the tea room of the Lazarus department store in Columbus, Ohio, and is recognized as one of the leaders in that line of work. Miss Love was here this week for initiation into the Pi Beta Phi sorority, she having been a member of the original petitioning group at the college.

After graduation from the Holton high school, Miss Love taught in the public schools of that city for two years and then came to the agricultural college to study home economics. She made her way in college wholly through her own efforts, and remained here three years, leaving in the summer of 1913 to become manager of a tea room in Hutchinson.

One year there prepared her for a wider field and she was offered the management of the Lazarus tea room in Columbus. She received at first \$1,800 a year plus 20 per cent of the profits from the business, but this has been increased until her compensation now reaches \$4,000 a year. Under her are employed 68 persons including two former students in the college, Miss Eva Armstrong and Miss Judith Briggs. Miss Love has been sent by her employers to large eastern cities to obtain new suggestions for her work, and she has made her establishment, it is stated, practically unique among American restaurants.

Miss Love was popular when in college and a good student and was recognized as possessing unusual executive ability.

HOLTON COMPARES TEACHER TO MANAGER OF WORKMEN

Professor of Education Urges Measurement by Practical Life Standards

A teacher is compared to the manager of a crowd of workmen by Edwin L. Holton, professor of education in the agricultural college, who has prepared a drawing showing the standard for grading students as determined by normal ability.

"The degree of skill of a manager of a group of workers," says Professor Holton, is measured by his skill in getting every member of the group to work up to his normal ability. Why shouldn't the same standard be applied in measuring the success of the teacher?"

The drawing prepared by Mr. Holton shows 50 per cent of the students doing work characterized as good, while 25 per cent do excellent work and another 25 per cent work merely passing or lower. A marked deviation from this, he points out, means poor teaching or else subject matter not adapted to the normal ability of the students.

SUNFLOWER SEED IS OUT

LIPPINCOTT GIVES IT THE COUNT AS POULTRY FEED

It's Good for Molting Period, but Not Practical at Other Times on Average Farm—Too Much Fiber and Too High a Price

Sunflower seed because of its cost and high fiber content is not so desirable a poultry feed as is generally supposed, according to W. A. Lippincott, professor of poultry husbandry in the Kansas State Agricultural college.

"In the first place it is too expensive," says Professor Lippincott, "and then, too, it contains a large amount of crude fiber. It is a good feed, however, for the molting period. The oil seems to aid in giving gloss to the feathers. Protein is essential to feather growth—and the sunflower is rich in protein."

"Sunflower seed is used by poultrymen when they are preparing birds for show purposes as the feed apparently gives the bird a better appearance. Showmen use the seed extensively as feed but it is not practical for the farmer unless the seed can be bought much cheaper than the ordinary market price."

OATS HARD ON DIGESTION

Oats are better feed for chickens than sunflower seed, in the opinion of Mr. Lippincott. Sunflower seeds have approximately 21 per cent fat content and 30 per cent fiber content, while oats have 4.2 per cent fat content and only 10.8 per cent fiber content. It is not wise to use oats as a feed for chickens too extensively because the digestive apparatus of the fowls is not designed to handle such a large amount of crude fiber.

The best fiber content in a ration for fowls is approximately 3.5 per cent. Too much fiber upsets the bird. If some feeds, low in fiber, are used in connection with oats, the fiber content is brought down to about the required amount.

Meat scraps and milk are the only common poultry feeds having absolutely no crude fiber. Broken rice has but .2 per cent, gluten meal 2 per cent, corn 2.2 per cent, and kafir 2 per cent.

KEEPS FATHER'S BOOKS AFTER TAKING HOME STUDY COURSE

Young Man Pursuing Correspondence Work Shows Worth of Training

That the home study service of the college is bringing results is shown every day by letters received by the division of extension. Here is an extract from a letter to E. M. Tiffany, in charge of the agricultural work in the home study service:

"I am sending you the remainder of my lessons in Farm Accounts. I will begin to keep accounts for my father March 1, 1916, and will be glad to send them to you at the end of the year for correction and to be used in your work."

"Please enrol me in reading courses, Varieties of Corn, R. A. 101, and Corn Culture, R. A. 102."

Both the short reading courses, based on agricultural bulletins, and the extension courses, based on more comprehensive texts, show rapid increase in enrollment.

DYKSTRA AND PHIPPS TO SPEAK TO VETERINARIANS

College Professor and Alumnus on Program of Missouri Valley Association

Dr. R. R. Dykstra, professor of surgery in the Kansas State Agricultural college, will speak on "Greater Accuracy in Clerical Diagnoses" before the Missouri Valley Veterinary association in Kansas City, Mo., Tuesday afternoon. Doctor Dykstra is chairman of the association's committee on surgery.

W. H. Phipps, who took his degree from the college in 1895, will speak Wednesday morning on "Kansas City's New Milk Ordinance and How it Operates." Mr. Phipps is chief food and dairy inspector of Kansas City, Mo.

WILL SHOW MODERN WORK IN HIGHWAY IMPROVEMENT

CONFERENCE WILL OFFER ATTRACTIVE FEATURES TO MEN INTERESTED IN ROADS AND BRIDGES—TO BE GIVEN AT COLLEGE FEBRUARY 28 TO MARCH 4

An exhibition of models of various types of road construction will be one of the features of the conference in highway engineering that will be conducted at the agricultural college February 28 to March 4. The work will be under direction of the civil and highway engineering department and the college extension division.

The models to be shown have been prepared by the office of public roads of the United States department of agriculture and illustrate the most successful types of roads from the time of the Roman empire to the present day. The method of constructing the Appian Way is shown in miniature, and the French roads that are known as among the best in existence are illustrated. There are models of earth roads, sand clay roads, gravel roads, macadam, concrete, and asphalt roads. The entire exhibit of models from the office of public roads has been secured and will be used in the class work during the week.

The object of the conference in highway engineering is to help those who are interested in the construction and maintenance of roads and bridges. The program has been especially prepared to disseminate information concerning the principles of the more recent development of highway improvement.

LECTURES TO BE ILLUSTRATED

In order that the results of the latest and best experience in road and bridge work may be available to all persons who can attend, it is planned to have these live subjects discussed by a number of prominent highway engineers. Lantern slides, motion pictures, and actual tests will illustrate many of the lectures, so as to make them as instructive as possible. The addresses and demonstrations will be of value to everyone who has occasion to construct or maintain roads, bridges, and culverts, whether he be engineer, county or township official, contractor, or foreman.

This course should be of particular interest and value to county engineers, county surveyors, county commissioners, township highway commissioners, road overseers, contractors, and others who have occasion to plan and carry on highway work. In addition, all who are interested in road improvement are invited.

It is not expected, say those in charge of the course, that experienced, efficient road engineers will be turned out in five days, but by an exchange of views and experiences city engineers, highway engineers, and road officials of the state will receive valuable help. The courses also have been planned so that men without experience in highway engineering may receive important suggestions on highway engineering and road construction and maintenance.

INSTRUCTION IS OFFERED FREE

The plan of the program is to have each subject presented in a paper or an address by an expert and to allow at the conclusion a general discussion of the subject.

No charge of any kind will be made by the college. The course will be open without examination or other condition except registration in the engineering building.

Those who attend the conference may obtain room and board at residences and rooming houses near the college. W. W. McLean, secretary of the Young Men's Christian association, at the corner of Eleventh and Fremont streets, will have charge of room and board assignments. Meals may be had also at the college cafeteria.

The program follows:

Monday, February 28—3 o'clock p. m., Registration in the engineering building; 4:00, Address of welcome, Dr. H. J. Waters, president of the Kansas State Agricultural col-

lege; Address, E. C. Johnson, dean of college extension, Kansas State Agricultural college; Address, A. A. Potter, dean of engineering, Kansas State Agricultural college; 8:00, Illustrated lecture and smoker at Commercial club rooms.

TO TALK ROAD MATERIALS

Tuesday, February 29—8 o'clock a.m., "Construction of Earth Roads," A. R. Losh, assistant state engineer, Kansas State Agricultural college; 9:00, "The Relation of Drainage to Road Building," H. B. Walker, drainage and irrigation engineer, Kansas State Agricultural college; 10:00, Intermission; 10:30, "Road Maintenance," W. S. Gearhart, state engineer, Kansas State Agricultural college; 1:30 p.m., "Dragging," C. F. Osborne, county engineer, Howard; 2:30, "Sand-Clay, Oiled Sand, and Oiled Earth Roads," W. S. Gearhart; 3:30, "Testing of Road Materials," P. J. Freeman, assistant professor of applied mechanics, Kansas State Agricultural college; 7:30, "Patents Affecting Concrete Bridge Design and Construction," S. N. Hawkes, assistant attorney general of Kansas; "Road and Bridge Construction in Iowa" (illustrated by motion pictures), Thomas J. McDonald, chief engineer, Iowa highway commission.

Wednesday, March 1—8 o'clock a.m., "Kansas Highway Laws," by S. N. Hawkes; 10:00, Intermission; 10:30, "Highway Organization," T. H. McDonald; 1:30 p.m., "How Elk County Handles its Highways," C. F. Osborne; 2:30, "Developing a System of Highways," by L. E. Conrad, professor of civil engineering, Kansas State Agricultural college; 3:30, "Competent Engineering in Highway Construction," A. R. Hirst, state highway engineer, Madison, Wis.; 7:30, "Needed Changes in our Highway Laws," J. T. Kincaid, president of Kansas Good Roads association; "Road and Bridge Construction in Wisconsin" (illustrated), A. R. Hirst.

NEWELL IS ON PROGRAM

Thursday, March 2—8 o'clock a.m., "Bridge Inspections and Required Waterways," C. I. Felps, assistant bridge engineer, Kansas State Agricultural college; 9:00, "Bridge and Culvert Design," C. B. McCullough, bridge engineer, Iowa state highway commission; 10:00, Intermission; 10:30, Laboratory inspection and demonstrations; 1:30 p.m., "Bridge Letting, Construction, and Inspection," W. S. Gearhart; 2:30, "Bridge Costs," A. R. Losh; 3:30, Address, Dr. F. H. Newell, professor of civil engineering, University of Illinois, former director of United States reclamation service; 7:30, "Road Building by the Reclamation Service in the Arid Region" (illustrated by colored lantern slides), Dr. F. H. Newell.

Friday, March 3—8 o'clock a.m., "Road Machinery and Equipment, its Use, Cost, and Care," A. R. Losh; 9:00, "Engines Best Adapted to Road Work," W. H. Sanders, instructor in steam and gas engineering, Kansas State Agricultural college; 10:00, Road machinery demonstration; 1:30 p.m., "Financing the Construction of Surfaced Roads," W. S. Gearhart; 2:30, "Concrete Road Construction, Maintenance, and Costs," L. E. Conrad; 3:30, "Highway Bonds," Dr. L. I. Hewes, chief of economics and maintenance, United States office of public roads and rural engineering, Washington, D. C.; 7:30, "Concrete Road Construction and Maintenance" (illustrated by lantern slides), J. B. Marcellus, representative of the Association of Cement Manufacturers; "Construction of Macadam Roads" (illustrated by lantern slides), Dr. L. I. Hewes.

Saturday, March 4—8 o'clock a.m., "Gravel Road Construction and Maintenance," John W. Mullen, dep-

uty state engineer, St. Paul, Minn.; 9:00, "Macadam Road Construction and Maintenance," Curtis Hill, city engineer, Kansas City, Mo.; 10:00, Intermission; 10:30, "Brick Road Construction, Maintenance, and Costs," H. E. Bilger, road engineer, state highway department, Springfield, Ill.

EXPERT HORTICULTURIST HAS PRAISE FOR COLLEGE

Herman Thedan Writes in Bonner Springs Chieftain of Practical Work Done at State Institution

Praise from a man who knows practical Kansas farming from start to finish is given to the Kansas State Agricultural college in a front page article in the Bonner Springs Chieftain, one of the first class country newspapers of the state.

Herman Thedan, who writes the article on the basis of his visit to the institution in Farm and Home week, has a record of producing 360 bushels of potatoes an acre over an area of 50 acres. He is also a big strawberry gardener, having specialized in horticulture.

"The state college of agriculture," writes Mr. Thedan, "has made wonderful improvements in the last two years since I was there. Eight new silos have been built, concrete, stave, tile, and metal silos. All keep silage well. New barns have been built and everything is better than ever. In the live stock all the different breeds of cattle are represented and they are carrying on experiments that in a few years will mean something for the stock raisers and dairymen of Kansas. A model poultry farm has been built on the colony plan and nearly all standard breeds of chickens are raised. The hog and sheep industry is well represented and hogs and sheep were being fattened for market on balanced and unbalanced rations."

"The dairy barn has four breeds of cows—Holstein, Guernsey, Jersey, and Ayrshire—and has a fine lot of cattle of each breed. I spent all the time I could watching the milking and feeding of the cattle.

"I wish every farmer of Kansas could spend a few days at the college. It would be a benefit to him in his work and it is an inspiration to better work to meet all those earnest workers, the best in the state, where they exchange ideas and work out plans for better farming and also better farmers in Kansas. I am sure every one comes away benefited by the experience he has gained. I heard several farmers say we should have two weeks of this in place of five days."

"A fine display of apples from every part of the state was an attraction in the horticultural building and they looked about as fine as any I have ever seen anywhere, showing that fine apples grow in Kansas when they get proper care. In the agricultural building was a large display of corn and kafir, also a fine display of the boys' and girls' club work.

"The lectures on horses and live stock seemed of most interest to the boys and a good many questions were asked by them showing that they were there for a purpose, and all received a courteous and satisfactory answer by the professor in charge.

"Every one of the faculty did everything to make our stay pleasant and profitable and all the visitors were more than pleased by what they had seen and heard, and they will be back next year for another Farm and Home week."

BUY FINE LIVE STOCK; PLANT ORDINARY SEED

This Is Common Farm Practice, Says S. C. Salmon—Better Methods Would Save Millions of Dollars

Kansas farmers who pay from \$100 to \$500 for a breeding animal will as a rule pick seed corn from the crib in the spring or will sell their best wheat and save what is left for seed. They do not realize that good varieties are even more important to the grain grower than is good stock for the cattlemen, according to S. C. Salmon, associate professor of farm crops in the Kansas State Agricultural college.

"The Turkey type of wheat is with-

out doubt the best variety of wheat for the wheat belt of Kansas," says Mr. Salmon. "This wheat was brought from Russia by Mennonite colonists in 1873. It adds \$20,000,000 annually to the net profits of farmers of Kansas and \$40,000,000 to those of the United States.

"The farmer should make careful tests in selecting seed wheat, as it is not possible to tell the best heads by their appearance; that is, one cannot say that the largest heads will produce the best yields. Often the smallest heads will do better because of early maturity.

"Results at Manhattan fully justify the expense of experiments thus far conducted. Several pedigreed strains have been developed that yield decidedly better than common Turkey and Kharkof."

A variety of Turkey wheat called Pedigree 762 has been produced, through experiments conducted by Kansas State Agricultural college soil authorities. This has produced average yields of three bushels an acre more than ordinary Turkey and Kharkof.

"This may not appear important," comments Professor Salmon, "but it should be taken into consideration that an increase of three bushels, because of growing a better variety, is nearly all net profit. From 5,000,000 to 8,000,000 acres of hard winter wheat has been sown in Kansas in the last few years. It is reasonably certain that this acreage would produce three bushels more an acre than is usually grown if a better variety such as Pedigree 762 were sown. This would mean an increase in the net profit of Kansas wheat growers of from \$10,000,000 to \$15,000,000 annually."

MATHEMATICIANS TREAT VARIETY OF SUBJECTS

Departmental Club Continues Series of Semi-Monthly Programs—Addresses by Professors and Students

The Mathematical club, composed of professors and advanced students in the department of mathematics and allied departments, is continuing this year its series of semimonthly programs. These deal with a wide variety of subjects.

The meetings for the rest of the year are as follows:

January 29—Address, Prof. J. O. Hamilton; "Zero and Infinity," Elliot Ranney; "The Egyptian Ropestretchers," Miss Frances Cole.

February 12—"Means of Measuring Mathematical Ability in Students," Prof. W. T. Stratton; "Graphical Solution of Quadratic Equations Having Complex Roots," Frank Sisson; "Proof and History of the Fundamental Theorem of Algebra," O. B. Githens.

February 26—"The Mathematics of Investment," Prof. H. E. Porter; "The Mathematics of Chemistry," Prof. H. H. King.

March 4—"Mathematical Symbolism and the Economy of Thought," Miss Daisy Zeininger; "The Solution of the Biquadratic Equation," C. A. Williss; "The Problem of One Cent," L. N. Miller.

March 18—"Influence of French Mathematics in America," Miss Ina Holroyd; "Problem Discussion, Ivor Mall; "The Solution of the Cubic Equation," A. M. Harvey.

April 8—"History and Development of Fermat's Last Theorem," Prof. A. R. Fehn; "Some Noteworthy Series for the Value of Pi and Their Derivation," L. E. Baldwin; "Development of Imaginary Numbers," Wilbur Lane.

April 22—Address, Prof. S. L. Simmering; "The Cattle Problem of Archimedes," C. O. Frankenhoff; "Two American Mathematicians," E. V. Kesinger.

May 13—"The Ancient and the Modern Treatment of Proportion," Prof. L. M. Dean; "Mathematics and the Science of War," J. H. Flora; "Problem Discussion, J. P. Hall.

FARM PAPER IS TEACHER

IS NEW DEVELOPMENT IN PRACTICAL INTERPRETATION

Agricultural Journal Presents Results of Research to Reading Farmer, Says G. C. Wheeler—Urge Open Mindedness on Short Course Men

In agricultural education the farm paper is a new development which interprets to the farmer the results of research work, said G. C. Wheeler of Topeka, live stock editor of the Kansas Farmer, in addressing the short course students of the Kansas State Agricultural college. The agricultural journal has done much, he pointed out, toward the recognition of the farmer as a business man.

"The farm paper," commented Mr. Wheeler, "is edited by men who have some knowledge of farming."

"Lime, legumes, and other agricultural matters were treated extensively in ancient times, but this information reached comparatively few persons. Today our agricultural colleges are finding out new things and the farm paper helps to carry them to the reading farmer."

KEEP OUT INACCURATE STUFF

"The editors of a farm paper use all their efforts to exclude from the paper things that are not accurate and reliable. Then, a special effort is made to keep out of the paper everything impracticable—everything that does not apply to conditions where the paper circulates. It does not pay even to let a small item get by that is unreliable. When people see impractical stories they will lose their confidence in the paper."

"The materials of a farm paper must be timely. These timely articles remind the farmers that the time for doing a certain thing has arrived. The farm paper is for the farmer what a tickler on the desk is for the city business man."

"In running a paper one must know his readers. He must know the territory in which his paper is circulated. This enables him to answer intelligently any inquiry that may come in. If he knows his territory he will make his suggestions applicable to the territory from which the inquiry came. This point is emphasized when we realize that cropping methods and soil cultivation vary even in different sections of Kansas."

ADVANTAGES HAVE INCREASED

Mr. Wheeler, who is a graduate of the college and a former member of the extension faculty, pointed out the educational advantages now open to the short course men.

"The short course fellows are better educated than they were formerly," he said, "because they have better educational facilities now. The man who comes here and makes a special effort for better agricultural education is certain to do better than those who follow the crowd."

"The man who is wise will learn from the experiences of others. He will reach out and take from others what they have to offer him. He will use the experiences that have come to others. He will be open to instruction. The man who is open-minded will learn and go ahead."

ENGINEERING SOCIETY HERE THIRD LARGEST IN COUNTRY

Annual Report Places Agricultural College in High Place

The Kansas State Agricultural college ranks third in the United States in number of members of the Society for the Promotion of Engineering Education, according to the annual report just issued. The membership here is 30.

The only institutions with a larger membership are the Massachusetts Institute of Technology, with 38, and the University of Illinois, with 48. The University of Pennsylvania and the Iowa State college have each the same number of members as the Kansas State Agricultural college.

The society has members in 194 institutions.

In the last report are also papers and discussions by members of the engineering faculty of the Kansas State Agricultural college.

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Number 17

RED PEPPER DAYS HERE

NOW IS TIME WHEN POULTRYMEN TRY TO STIMULATE LAYING

Condiment Idea Is Mainly a Myth, Says Stock Remedy Analyst—There's Nothing Mysterious About Prepared Foods and Tonics

Red pepper days are here! Hundreds of Kansans, because of an old theory that has been handed down from one generation to another, are feeding their poultry something "hot" for breakfast daily with the idea of increasing the egg production. The practice does stimulate appetite but is conducive to overfeeding with the result that the birds become fat and sluggish.

"No one can say when or how this use of red pepper originated but it is common in the winter months," says R. H. Needham, associate in stock remedy analysis in the Kansas State Agricultural college.

"The popular idea as to the manner in which red pepper produces the desired effects is that in extremely cold weather, fowls need something hot and that a good dose of red pepper in feed every morning will, in time, so warm up the chilled hens that they will recover their suspended activity and laying will be resumed.

"This explanation sounds plausible until the medicinal effect of red pepper is investigated.

"Red pepper is a condiment and stomachic—a substance to season food and to stimulate the activity of the stomach and other digestive organs and to increase the appetite. It has no heating properties, unless taken as a hot tea, and then the warming effect is mostly due to the hot water. Hens do not relish such portions and are rarely given red pepper tea, except individually, and then only if ailing.

WARM QUARTERS PREFERABLE

"The use of red pepper as a stimulant for laying is largely a myth and a balanced ration and warm quarters, properly lighted and ventilated, are all vastly superior in value for making hens lay to excessive feeding of such a condiment as red pepper. Adding a little condiment occasionally to a hot wet mash, will stimulate appetite when the fowls do not appear to be eating as well as usual. It should not form a part of the daily ration, even in cold weather.

"There is nothing mysterious about the composition of a poultry food, neither does it require great scientific knowledge or expensive and complicated machinery to mix the ingredients. Some formulas are distressingly long, calling for as many as 20 ingredients. But these so called 'shotgun' formulas are no better and usually not so good as the more simple ones. The former are truly 'shotguns' in a way, made up as they are of a little of each of such a large number of ingredients that the finished preparation would contain a sufficient variety of drugs to treat almost every ailment that might appear in the flock.

"One simple poultry preparation found in the markets consists of rosin, blood meal, bone meal, charcoal, oyster shells, copperas (iron sulphate), and red pepper, all finely ground and intimately mixed.

JUST WHAT IT COSTS

"Approximate wholesale prices per hundredweight are: rosin, \$3.50; blood meal, \$3.50; bone meal, \$2.50; charcoal, \$1.25; oyster shells, \$1; copperas, \$1.75; red pepper, \$.5. Suppose this poultry food should be mixed as follows: rosin, 10 pounds; blood meal, 3 pounds; bone meal, 20 pounds; charcoal, 20 pounds; oyster shells, 30 pounds; copperas, 15 pounds; red pepper, 2 pounds—a total of 100 pounds.

"Itemized, the cost of ingredients per hundred pounds would be as fol-

lows: rosin, 35 cents; blood meal, 10½ cents; bone meal, 50 cents; charcoal, 25 cents; oyster shells, 30 cents; copperas, 26½ cents; red pepper, 10 cents; total, \$1.86½.

"Truly, not very expensive—less than two dollars a hundred. It appears rather cheap at first glance, but upon investigation, it is apparent that this preparation is not in reality a medicine. It consists principally of feeds and inert materials with which are mixed copperas and a little red pepper, 17 per cent of actual medicine and 10 per cent of rosin, the medical value of which is rather questionable. The poultry keeper does not prepare his tonics and foods, but goes into the market and pays from \$3 to \$5 a hundred for them. A great many of the preparations are perhaps little better than the one quoted and if purchased in a small way, will cost from 8 to 30 cents a pound.

LEARN VALUES OF DRUGS

"A better understanding of the medicinal values of simple drugs would enable the poultryman to use better judgment in purchasing preparations which would contain the ingredients he wished to give his fowls. Such knowledge would do away with the indiscriminate use of a poultry food or tonic.

"Fowls need tonics once in a while just as do human beings. At such times, medicine should be given with discrimination. Cathartic drugs, astringents, and those acting upon the kidneys should be given only to correct actual conditions such as constipation and diarrhea. Continual dosing is no better for poultry than for man. Drugs administered when there are no abnormal conditions to correct are not beneficial, as all drugs having any medicinal value, are to certain extent toxic or poisonous. Without such properties they have no curative value and are inert, though the name of drugs may be given them.

"A few examples may serve as illustration. Iron in the form of copperas is astringent and constipating. Aloes is a laxative. The former is recommended in cases of diarrhea and the latter in cases of constipation. Still, these two drugs may be constituents of a poultry remedy, and the purchaser instructed to feed without regard to symptoms or conditions.

"Arsenic is a poison, yet in small doses is a tonic, as is nux vomica or strichnine. Would the owner of the flock take these drugs daily, regardless of whether he was well or sick?

The one thing that saves the fowl under this treatment is that the quantity of poisonous or active drugs is usually so small that each fowl receives such an infinitesimal amount as to produce very little medicinal effect.

IT'S NOT USUALLY MEDICINE

"Such being the case, it is quite clear that in most instances the user of an ordinary poultry food or tonic is not feeding a medicine as is supposed but a combination of feeds and materials which possesses little medicinal value but for which the consumer has to pay drug prices. There are exceptions, but these are rare.

"The profits accruing from the manufacture and sale of poultry foods and tonics are quite sure and are sufficiently large to make this line of business attractive to capital. The poultry raiser can go into the market and purchase gross materials, such as oyster shells and bone meal, at prices frequently lower than those quoted. The medicines required to keep poultry in good condition can be purchased at retail and at reasonable prices. Should one desire to feed a prepared poultry food or tonic, a knowledge of the composition of such preparations would prove a valuable aid and guide as to the purchase and feeding of such a commodity.

(Concluded on Page Four)

USE CAMERA ON FARM

PHOTOGRAPHY IS VALUABLE ASSET IN MODERN AGRICULTURE

Snapshots Add Also to Social Life in Rural Community, Points Out Emmett K. Emslie—Some Suggestions for Beginners

A camera is a valuable asset to a farmer, in the opinion of Emmett K. Emslie, photographer at the Kansas State Agricultural college. Photographs are a means of keeping accurate live stock and other records, and are invaluable when used for advertising purposes.

"The farmer who raises live stock will find that the camera may be used to serve several purposes," says Mr. Emslie. "If a valuable record is desired a series of photographs might be taken showing different stages in the growth of an animal. If an experiment is being conducted, a photographic record of its stages could be made.

"Photographs may be used as convincing arguments in good roads campaigns. Photographs of roads under varying weather conditions may be taken.

THEY ALL ENJOY POSING

"The camera may be made to play an important part in the social life of the farm. Visitors are always interested in looking at good photographs, and there is none who does not actually enjoy being 'snapped.'

"Although most of the small cameras do good work, a high priced one is desirable if one can afford to pay the price. It is usually considered a good plan, however, to start with a cheap lens because an expensive one requires more accurate manipulation and greater care.

"The roll film camera seems to be a favorite because it is compact and easy to use. It requires no dark room for loading or for developing the films.

EXPOSURE IS BIGGEST POINT

"Of the whole photographic process the exposure is most important. Best results are obtained through the tank method of developing. In this method the only causes of failure are carelessness as to the directions given and impure water. Boiled and cooled eastern water is best to use. Ordinary well water is usually pure enough to use for developing.

"There are two ways to determine the length of exposure. Guessing will lead, through practice, to fairly correct exposure. Then there are a number of calculators on the market for determining exposure. In one case the operator guesses the strength of the light and calculates from his guesses; in another type, a colored glass prism is manipulated to allow the view to assume a certain appearance.

"A third method—which probably is the best—depends upon the action of the light on a sensitized piece of paper. Since this gives the actual photographic value of light the exposure can be made with a fair degree of accuracy. Any one using this actinometer for determining exposure and the tank method of development will have fair degree of success. There is a single lens that is used in the cheaper grades of cameras. The anastigmatic lens is corrected as to the various defects that are found in the other lenses. It also makes shorter exposure possible—which is an advantage in winter or in poor light.

PRINT BY ARTIFICIAL LIGHT

"The gas light paper method is the favorite way of making prints. It may be used with various types of artificial light. The manipulation is simple. Directions for use are usually inclosed in the package. The developer may be obtained in prepared packages similar to those put up for tank use. The

developing paper can be bought in a variety of surfaces and weights so as to meet every need.

"Persons who are interested in photography should have some publications. All makers of photographic materials have manuals published on the uses of their goods. Most of these can be had for the asking. There are other good books and several photographic journals."

THERE'S A PLACE FOR DUCKS ON KANSAS FARM

They Are Fine for Family Use Though Not Yet Very Valuable as Market Product—Pond Unnecessary

The duck has its place on the Kansas farm, but duck raising as a business is as yet comparatively unprofitable because of long distance to market and prejudice among buyers of live poultry. The duck furnishes a delicious roast for the family and an abundance of feathers for home use.

"Contrary to general opinion, a pool large enough for swimming is not necessary," says N. L. Harris, superintendent of the Kansas State Agricultural college poultry farm. "Ducks can be raised on dry land—that is, if they are provided with water sufficiently deep to allow them to submerge their beaks and wash the sand from their nostrils. Otherwise they will die."

The natural food for ducks consists of bugs, worms, and green succulent vegetation found in marshy places. Notwithstanding the fact that ducks are easily raised, they should not be hatched until warm weather, at which time such feeds are plentiful.

There is danger of overfeeding, according to Mr. Harris. The duck is the most ravenous feeder of all classes of domesticated fowls except the goose.

As an egg producer, nothing very flattering can be said. The Indian Runner is good for egg production but so far it has not been proved that duck egg production is a paying business, says Mr. Harris. Duck eggs are larger than chicken eggs but a corresponding increase in price cannot be had. There is an unfounded prejudice against duck eggs.

The two breeds most extensively raised for meat are the Pekin and the Rouen. The Pekin is the better because it has white feathers, white meat, and yellow legs—characteristics which are desired in dressed poultry.

REPORT OF STATION DIRECTOR CONTAINS INTERESTING FACTS

Publication Includes Summaries of Bulletins and Other Valuable Data

Copies of the report of the director of the Kansas Agricultural Experiment station for the year which ended in June, 1914, have been received and are available for distribution among members of the faculty who are interested. The edition is very limited.

The report which was prepared by W. M. Jardine, director, is one of the most interesting and valuable publications of its kind. It contains summaries of bulletins and other publications, brief comment on experiment station investigations both at Manhattan and at the branch stations, and numerous valuable tables and illustrations.

WATER TOWER WILL GLISTEN IN BRIGHT KANSAS SUNSHINE

New Paint—Green, White, and Aluminum Will Decorate College Landmark

The repair department, under the direction of Glen Blain, is repainting the giant water tower which furnishes pressure for the water used at the Kansas State Agricultural college.

The bowl and supports are being painted aluminum color; the roof, green; and the conduit for the water, white. The cost will be more than \$100.

PLANT RAPE IN EAST

A GOOD PASTURE CROP FOR PART OF STATE, COMMENTS EXPERT

Patch Should Be Sown Every Two or Three Weeks—Especially Desirable for Small Farmers or for Short Period

Rape is well adapted to the soil and climatic conditions of eastern Kansas and is proving particularly valuable to farmers who depend entirely upon pasture crops in hog feeding. Many persons are planning to grow some rape next season.

"Under favorable conditions an abundance of pasture for hogs, sheep, or cattle may be had the entire season on good lands in the three eastern tiers of counties," says Ralph Kennedy, assistant professor of agronomy in the Kansas State Agricultural college. "To produce this result a patch of rape should be sown every two or three weeks.

"When the hogs or other stock have eaten most of the leaves of the first patch, they are turned on to the second patch. By the time a third patch is eaten down the first is ready for pasture again, but the rape should be a foot high before the stock are turned on to it.

"In cool, moist seasons such as the one just past, rape does exceptionally well when sown in the corn field between August 15 and September 1. It will be ready for pasture by October 1 and will furnish good pasture for three to five weeks if not pastured too heavily. On good bottom lands the rape may be sown with oats in spring and will furnish pasture for several weeks after the oats are cut.

SOMETIMES PLANTED IN ROWS

"Tramping injures rape and for this reason it is sometimes sown in rows. Planting in rows lessens the injury of trampling. Pasture is the only purpose for which rape is used. It wilts too rapidly to be used as a soiling crop. Rape is not a factor as a rotation crop because it is grown on too small a scale.

"Rape finds its greatest use with small farmers who have 40 or 50 head of hogs, or with larger farmers who need pasture for a short period of time. It is grown largely as a catch crop and is seldom grown in large fields. An acre of rape will furnish pasture for 12 to 15 100-pound hogs for four to six weeks.

"Insects and plant diseases do not injure rape. Its growth is completed in so short a time and it is grown on such a small scale that the insects and diseases do not have time to become established. Since rape is seldom grown on the same land in successive years, the insects and diseases cannot live over in the soil to attack the next crop.

SAME SOIL AS FOR CORN

"Rape is adapted to soils which will produce profitable corn crops. It is not adapted to heavy clay soils. Rape will sprout and make a better growth in cool, moist weather and consequently early April or September sowing gives the best results. Moisture conditions are usually a limiting factor in the growing of rape during the summer months.

"The seeds of rape are small and consequently should not be planted deeper than an inch. Dwarf Essex is the variety universally sown. It should be planted at the rate of five to seven pounds to the acre. Rape responds well to the careful preparation of the seedbed but it is most commonly broadcast on corn stubble or on ground on which some other cultivated crop was grown the previous year. The farmer who makes rape a large part of his pasture scheme should plow his ground in the fall in order to catch and hold the moisture from winter snows and rains."

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SATURDAY, FEBRUARY 5, 1916

Missouri courts are getting puritanical. A man was fined the other day for lying.

One reason why farming requires efficiency is that the farm combines home, office, factory, warehouse in itself.

Some persons will continue to take interest in the predictions of the weather bureau, while others will depend on what the groundhog saw this week and on the kind of weather we had in the February of up-to-ump.

FAILING TO TEACH

Prof. H. W. Davis was right when he told the general science faculty the other day that nobody commands a dancing teacher for the number of pupils he failed to teach to dance. He was also right in his application of the underlying principle to school and college teaching.

People who get their living from fees paid by individual pupils, as does the dancing teacher, put forth a strong, consistent effort to make their pupils learn something. Failures are marked down in everyday circles as the teacher's failures.

In public education, on the other hand, there are teachers who even boast of the number of pupils that they did not promote—in other words of the number of pupils into whose heads they failed to get a reasonable amount of knowledge of the subject studied. Why should not this be marked down as at least in part the teacher's failure? asked Professor Davis. Why should professional teachers try to get away with excuses that the non-pedagogical world fails to use because they are worthless? Of course, there is an occasional boy or girl so awkward that he can't possibly learn to dance. As to this the world makes allowance. It will likewise make allowance as to the boy or girl who is abnormally short of brains. But if it finds that nine persons out of 10 can learn to dance, it will hardly look with complacency on the theory that only five or six out of 10 can be taught school or college subjects. Certainly it is to be hoped that civilization has produced as good brains as feet.

PLANS PAY

There is one respect in which the city man often gets ahead of the farmer. Just about now the urbanite begins to read the seed catalogue and to plan his garden. He usually gets more pleasure out of the plans than he does out of the garden—if the latter actually materializes at all. In the seed catalogue the radish looks like a turnip; the city dweller is much more likely to find, when it comes to stern reality, that his turnip much more closely resembles a radish.

The farmer, on the other hand, gets

his fun—and his living—out of real, honest-to-goodness crops and not catalogues or plans. For that reason he is likely at times to neglect the plans. It is perfectly true that the city gardener's plans frequently fail to materialize, but that does not condemn the making of plans. The farmer who plans well and then knows how to carry out his plans effectively, has the edge on the man who goes at the season's work hit or miss. And now is the planning time.

WHAT THE FARM PAYS

Does intensive farming pay? Well, what is intensive farming?

Any sensible farmer knows that it does not pay to farm as intensively in this country as is proper and necessary in Japan. Equally, most of us understand that a good deal of farming is done among us which is too much on the cut-and-cover order—not intensive enough. Where is the golden mean, the degree of intensiveness which will bring in the greatest possible returns?

The office of farm management of the United States department of agriculture has completed a survey of one of the best-farmed counties in the United States, Chester county, Pennsylvania. This survey shows that the crop yield produced by intensifying the farming processes rises along with the labor income up to a certain point. After that point larger yields produced by intensive farming are accompanied by a loss in the labor income. In other words, as intensive farming is there practiced, there is a point at which it costs more in labor than it brings in crops.

Where is that point? Are many of us farming too intensively? Not many of us. Loss through intensiveness does not occur on many Chester county farms. Most of the losses arise from too small yields. The survey shows that crop yields may be increased by intensive methods to a point about 40 per cent higher than the Chester county average before intensifying ceases to be profitable.

This lets most of us out. It is safe to say that the farm is a very exceptional one which is so managed as to yield 40 per cent more than the average one in the county in question. We may go on intensifying for some time yet before we need fear that we are growing crops which are unprofitable because of their large yield. They may be unprofitable on account of the aggregate yield of the nation or the world—but that is another story.—Farm and Fireside.

PLANTS FROM CHINA

The third expedition into China to discover new plants suitable for introduction into the United States has been completed by F. N. Meyer, plant explorer of the United States department of agriculture, who has just returned to Washington after a three year trip in the far east. As a result of this expedition through the center of China, and two previous explorations of similar duration covering extremely cold Manchurian regions and the arid regions of Chinese Turkestan, there have been sent to America for planting and testing for commercial adaptability, seeds, roots, or cuttings of some 3,000 food and forage plants, flowers, ornamental shrubs and vines, shade and timber trees. The previous expeditions brought to America specimens of many cold resistant and dry land grains, sorghums, soy beans, alfalfas, and forage plants, and also certain semi-tropical plants, such as the bamboo, which are now under experimentation to determine their usefulness for the extreme south.

Of the many specimens forwarded to this country during the last expedition, the specialists regard as most significant the jujube, a fruit new to this country, which may be suitable for use in the southwest; a wild peach resistant to alkali, cold, and drought, the root system of which offers great possibilities as a grafting host; certain Chinese persimmons larger than any hitherto known in this country; a number of aquatic food roots and vegetables which offer promising possibilities for the utilization of swamp land; some 30 varieties of veg-

etable and timber bamboos; and a number of Chinese vegetables, bush and climber roses, shrubs, and trees.

SELECTING FOUNDATION STOCK

What is the common practice in selecting foundation stock for a breeding herd? Is it not to select a good animal here and there, without much reference to uniformity of type or blood lines, and then take from five to 10 years to eliminate some of the mistakes and incongruities that have been deliberately put into the herd at the outset? The elimination is made only in case the breeder becomes systematic

sachusetts factory of the shoe manufacturer in exactly the same length of time that would have elapsed if the envelope had borne his full name and address.

Postal clerks pride themselves on their ability to decipher cryptic addresses, although it is wearing on the clerk who is working a car full of mail on an overcrowded run to come upon an envelope addressed by some joker whose endeavor seems to have been to make Uncle Sam all the trouble he could. It is safe to say, however, that from the day of the incident recounted above to this one any letter sent a na-

Reporters

William Rockhill Nelson

I sometimes think that Providence is especially charged to watch over reporters. There seems to be something in their work that brings out the best there is in them.

In a long career in which I have dealt, I suppose, with hundreds of reporters, I have almost never known one to be false to his trust. Opportunities innumerable come to them to be dishonest—to color news, or suppress it. But it is the rarest thing in the world for them to be disloyal. We constantly trust young, little known fellows with the gravest concerns, and our confidence, as I said, is almost never misplaced.

It is a constant wonder to me that men are willing to make the adventure into newspaper work, until I recall that it is the most fascinating work in the world, and that when a man once gets the virus in his system he can't be beaten off with a club.

Finally, the reporter must be, above all, a good citizen in all that that term implies. He must be honest; he must be sincere. He must be against shams and frauds. His heart must be right. Mere smartness will never give permanent success.

Make it your ambition to be great reporters. And everything else shall be added unto you.

and successful. If he does not, the original folly is perpetuated. The first thing that needs to be done in many herds and flocks is to discard three-fourths of the original stock at once; in some cases all of it should be discarded. A few foundation animals of the right type are worth more than a whole herd selected at random, even though it include many individuals.

The next task, and the most important of all, is the selecting of a sire. Most of the really successful breeders of purebred stock owe their success primarily to one or two outstanding sires. Blood of this kind becomes invaluable in a herd. A breeder can well afford to make a most thorough and careful study of the selection of a sire. Thomas Bates declared, when his herd had reached a certain stage, that there was only one bull living fit to come to Kirklevington. When he secured that bull he announced that he would produce such cattle as the world had never seen. The results a few years later fully justified his declaration. He apparently knew exactly what kind of sire his herd required. Fortunate is the man who knows how to select breeding stock and doubly fortunate is he who finds the right animals and mates them properly.—Breeder's Gazette.

SUCH IS FAME

Some thirty years ago a resident of a shoe manufacturing city in Massachusetts, traveling in Germany, wrote a note like this: "I am desiring of learning for myself whether it really pays to advertise. I am mailing this letter on such and such a day. Please advise me how long it takes you to get it."

He enclosed this note in an envelope and on the envelope, with sufficient postage, pasted a picture cut out of an American newspaper advertisement—the portrait of a shoe manufacturer who was then—and still is—a very heavy advertiser throughout the world. There was not a word of writing or printing on the envelope, nothing to show whose face was represented by the cut.

The letter was delivered at the Mas-

sachusetts factory of the shoe manufacturer in exactly the same length of time that would have elapsed if the envelope had borne his full name and address.

Postal clerks pride themselves on their ability to decipher cryptic addresses, although it is wearing on the clerk who is working a car full of mail on an overcrowded run to come upon an envelope addressed by some joker whose endeavor seems to have been to make Uncle Sam all the trouble he could. It is safe to say, however, that from the day of the incident recounted above to this one any letter sent a na-

the gnarled limbs spring upward airy-free,
And from their perfect arch they scarcely swerve,
Like spouted fountains from a dark, green sea
So beautiful they curve,—
Motionless fountains, slumbering in mid-air,
With spray of shadows falling everywhere.

Here the Sun comes not like the king of day,
To rule his own, but hesitant, afraid,
Forbears his scepter's golden length to lay

Across the inviolate shade,
And wraps the broad space like a darkened tent,
With many a quivering shaft of splendor rent.

No garrulous company is here, but books—
Earth's best men taken at their best—books used,
With dark-edged paths, and penciled margin-strokes,
Where friends have paused and mused,
And here and there beneath the noticed lines,
Faint zigzag marks like little trailing vines.

SUNFLOWERS

Representative Kitchin ought to be successful in dealing with domestic problems.

Our idea of nothing to put into a newspaper is letters from subscribers arguing about Shakespeare's plays.

"Get your hide tanned," urges an Ohio tanner. But no newspaper editor would need to pay real money for that.

Our dear old phrase, "a king's ransom," got back into the papers with the capture of the Appam. At present prices kings seem to be valued at two and a half million dollars apiece, but it's doubtful if they'd bring that price in open market—there are too many disturbing conditions.

COW A GOOD TRAVELER

A Guernsey cow belonging to a New Jersey reader has an interesting traveling and milk record. She was imported from the island of Guernsey, and a few days after she arrived in this country was shipped across the United States to California, and milked over 38 pounds the day after she arrived. This is only two pounds less than her usual daily production.—Farm and Fireside.

A QUARTER CENTURY AGO

Items from The Industrialist of February 7, 1891

C. A. Campbell, fourth-year, is doing local work on the Republic during afternoons.

More than a hundred students in analytical chemistry test the capacity of a classroom provided for but 86.

The college library contains about 3,250 per cent of fiction, including juveniles. Of the whole number of books drawn for home use, about 18 per cent are fiction.

The horticultural department is in receipt of a small quantity of Stuart's "paper shell" pecans, grown by W. R. Stuart and Company, Ocean Springs, Miss. They are large nuts, measuring about 2 inches in length and 3 inches in circumference, and the kernels have a delicious flavor. The price alone—60 cents per dozen—bars their general introduction.

The sixth division of the fourth-year class entertained the students and faculty with orations yesterday, as follows: E. C. Thayer, "The Necessity of a Navy;" Anna Fairchild, "Organized Charities;" S. L. Van Blarcom, "Historic Dream of Russia;" Fannie Waugh, "Art and Artists;" Flora Wiest, "Teachers and the Lessons of Life;" A. O. Wright, "One Phase of the Race Question;" Bertha Winchip, "Beauty in Diversity;" Jeannetta Zimmerman, "Buried Sunshine;" F. A. Waugh, "Our National Hymn."

A MODERN PROPOSAL

Yellow or Purple Locks,
Wilt thou be mine?
Thou shalt not slave at home,
Nor yet shalt thou pine;
But sit at a bridge club
And play a bum game,
And feed upon gossip,
Both vicious and tame.

HOW THINGS TRAVEL

A rifle ball travels 1,460 feet per second.
Sound moves 1,142 feet per second.
Light travels 192,000 miles per second.

Electricity moves 288,000 miles per second.

Scandal travels a million miles a minute.

Truth moves five feet per hour.—American Breeder.

CIVILIZATION'S UNIT

The farm is vastly more than a business enterprise; it is a home, a social and civic center—the most important unit of civilization. The success of a farm home is based on the success of the farm business. What farmers need most to know is how to make the science of agriculture boost the business of farming.—Carl Vrooman.

AMONG THE ALUMNI

George H. Kellogg, '05, is teaching agriculture in Blair, Nebr.

Miss Belle Lunden, '14, is principal of the high school at Plainville.

Miss Mary A. Johnson, '15, is principal of the Lebanon high school.

Lawrence Nabours, '15, is spending the winter at his home in Many, La.

Miss Myrtle Grover, '13, is assistant principal of the Towanda high school.

John McCoy, '09, is a successful practicing veterinarian in Cawker City, Kan.

A. F. Vass, '09, is working for the degree of doctor of philosophy in Cornell university.

Miss Lucy Platt, '12, is teaching domestic science and art in the high school at Medicine Lodge.

Mrs. Golda (Masters) Burkett, '14, of Kechi, Kan., is visiting her parents, Mr. and Mrs. W. E. Masters.

Miss June Milner, '14, has charge of a Young Women's Christian association cafeteria in Beaumont, Tex.

Floyd B. Nichols, '12, field editor of the Mail and Breeze, spent Sunday in Manhattan with college friends.

Miss Gladys Wilcox, '14, is enjoying her work as teacher in the Olathe high school. This is her second year there.

Miss Mabel Bennett, '15, was operated on for appendicitis at the Charlotte Swift hospital last Friday and is doing nicely.

Lester B. Pollom, '13, is teaching manual training and athletics in the Wamego high school. He visited college last week.

Miss Margaret Justin, '09, is in the home economics division of the extension department in the Michigan Agricultural college.

Miss Gail Tatman, '14, who is working in the office of L. E. Call, professor of agronomy, went to Kansas City last week to attend the Richard-Beeler wedding.

Clyde G. Winter, '14, is teaching manual training in the Blair (Minn.) high school. He writes that he enjoys his work but would like to be back in Kansas again.

Miss Bertha Schwab, '13, is teaching home economics in the high school at Roseville, Cal. She has charge of the girls' athletics in the school. She writes that she is enjoying her work very much.

Miss Laura Wingfield, '14, has resigned her position as teacher of domestic science and art in the Lexington Girls' Boarding school at Santa Fe, N. M., on account of the illness of her sister.

DEATHS

THOMAS H. BAKER

Thomas H. Baker, a member of the first board of regents of the Kansas State Agricultural college, died in Denver Monday at the age of 90 years.

Mr. Baker was a member of the Kansas legislature for 12 years and of the board of regents for seven years. While in the state he lived at Manhattan and Irving, but assisted in laying out several other cities, including Wichita. He went from Kansas to Denver, Colo., where in 1872 he became the first high school principal in the city.

BIRTHS

Born, to Mr. and Mrs. J. F. Barden of Fontana, Kan., on January 27, a daughter. Mrs. Barden was Miss Eva Surber, '12.

BURR WANTS ORGANIZATION IN RURAL RELIGIOUS MOVEMENTS

Rural Service Expert Fears Country May Become Paganized

To allow the practice of brotherhood to prevail in secular agricultural, economic, educational, and social life, while it exists to only a small degree in religious life, is rapidly to pagan-

ize the country community, declares Walter Burr, of the rural service department, Kansas State Agricultural college. Mr. Burr has an article on "Commission Government in Religious Work," in the current number of *Rural Manhood*.

"The problem of the democracy has always been to locate responsibility and authority without jeopardizing popular rule," states Mr. Burr. "It was left for an American city, Galveston, in a time of emergency brought on by a natural calamity which was of its kind unprecedented in history, to discover a way in which centralization of responsibility and authority could be combined with a real democratic form of government. For the time of emergency a commission was appointed to conduct the affairs of the city; and the plan worked so well that provision was made to continue it as the form of city government.

"The problem that presents itself is the religious organization of a country community.

"To those who believe that the permanency of the American democracy depends upon the revitalizing of the rural communities; that the revitalizing of the rural communities depends upon their being organized as communities and not as feudal groups—to those who believe this and at the same time have a twofold love for country and for church, the time of emergency which calls for some efficient kind of rural religious organization seems to be upon us."

WILL CAGE MUSIC UP IN ITS OWN PROPER ROOMS

College Repair Experts Devise Plan to Keep Melodious Strains from Floating Too Far

What is "mineral wool," Mabel? Well, it's what some people—the horrid things—use to keep piano music in the room where it originates.

The repair department of the Kansas State Agricultural college has just finished making sound-proof, four of the music rooms in the auditorium. Two of the rooms are upstairs, the others just below them.

Upstairs new floors were put down. Three layers of boards were laid, a dead air space left, then another layer of boards, a dead air space and, finally, maple flooring on top.

Downstairs, the plastering was removed from the walls and "mineral wool" packed into the space between the two layers of plastering.

"Mineral wool" comes from a by-product of iron, glass, and stone and at one stage is in a molten state. This melted material is subjected to the action of a jet of steam, which has the effect of breaking it up into snowflake flakes.

In connection with the work of insulating the walls against the passage of sound, the repair department is making other improvements which will add greatly to the efficiency of the music department. Good floors, new music racks, a new set of furniture, and new decorations are included in the changes.

JANUARY A BIT COOLER THAN USUAL IN KANSAS

Both High and Low Temperatures Were Features of Past Month's Weather

January was the fifth wettest month of that name in the 57 years in which the Kansas State Agricultural college records have been kept. The precipitation was 1.47 inches, or .77 of an inch above normal. The depth of snow was 6.5 inches.

The average maximum temperature for the month, according to the report issued by J. O. Hamilton, professor of physics, was 37.2 degrees as compared with 38.4 degrees, the 57-year average.

The average temperature was 26 degrees, or 1.3 degrees below normal. The highest temperature was 67 degrees on January 4; the lowest, 18 degrees below zero on the thirteenth. While both temperatures are unusual no record was broken.

In the last 57 years there have been but two winters in which the temperature did not go to zero or lower. The average minimum temperature for the 57-year period is 7 degrees below zero.

DEBATERS WIN AND LOSE

COLLEGE AND NORMAL SCHOOL TIE IN ANNUAL CONTEST

Decision in Each Case Is Against Open Door Policy of Hay—One Lone College Professor Acts as Judge of Each Talkfest

In a dual debate between the Kansas Aggies and the Kansas State Normal, the Aggie negative team won from the Normals at Emporia, while the Normal negative team won from the Aggies at Manhattan. The question for debate was, "Resolved, that the United States should insist that the open door policy as laid down by John Hay should be strictly respected by all nations."

At Emporia platform honors were about equally divided so far as delivery was concerned, but the Aggies showed better generalship in argument and were more definite in their proof.

The open door policy was narrowed down to a purely commercial affair and the Aggies sustained their contention that the trade of China was too small to warrant the continuance of the policy, especially in view of the fact that the open door lent indefiniteness to the foreign policy of the United States. The Normals at Manhattan made practically the same contention.

WASHBURN MEN DECIDE DEBATES

The debate was unique in that the one judge system was used at both places. Dean D. L. McEachron of Washburn college, Topeka, judged the debate at Manhattan, and Prof. Roy Towne, also of Washburn college, judged the debate at Emporia.

The Normal debaters at Manhattan were Harry Elwell, captain, Kary King, Floyd Rorick, and the Aggie debaters were Riley McGarraugh of Mulvane, captain, F. H. Dillenbeck of Walnut, and J. A. Hull of Stafford. H. M. Carr, professor of public speaking and debate at the Normal, coached the Teachers. Dr. J. R. Macarthur, associate professor of the English language and coach of debating, coached the Aggie team at Manhattan.

The debaters at Emporia were D. A. Morgan, captain, Martin Nelson, and Guy Webster representing the Normal school; Arthur Boyer of Scranton, captain, W. A. Wunsch of Argonia, and E. F. Wilson of Kansas City, Mo. Dr. J. G. Emerson, professor of public speaking, accompanied the college debaters to Emporia.

USE COMMON MATERIALS TO CLEAN SILVERWARE

Chemist Tells of Practical, Efficient Methods for Brightening up Metal Articles

Silverware can be easily and efficiently cleaned with materials that are ordinarily found in every household, asserts Dr. H. W. Brubaker, assistant professor of chemistry in the Kansas State Agricultural college.

"The electrolytic method takes as little work and accomplishes the purpose as well as any," says Doctor Brubaker. "First make a soda solution containing one tablespoonful of washing soda to every pint of water. Put the silver to be cleaned in an aluminum pan and cover with the soda solution. Have at least one piece of the silver in contact with the aluminum. Salt and ammonia or ammonium alone may be used instead of the soda solution. The length of time required depends on how badly the silver is tarnished, but ordinarily less than half an hour is necessary. When the silver is bright, put it into clear water. Then dry and polish it."

"The aluminum has a part in the reaction but practically no harm is done to the kettle. Any receptacle may be used if a small strip of zinc be put under the silver—a fruit jar lid will answer the purpose."

"Whiting—calcium carbonate—is a good basis for silver polish. Make it into a paste of desirable consistency with household ammonia, soap solution, or alcohol. Whiting may also be mixed with salt solution, applied to silver and washed off with ammonia. Wood ashes, very finely sifted, may be used instead of whiting. To apply

any of these mixtures, coat the silver, let it dry and remove the paste with a soft piece of cotton cloth, then polish the silver with a chamois skin.

"None of these methods of cleaning will harm the silver in the least. Be careful that the whiting and ashes are fine enough so they will not scratch. Silver not in every day use should be given a thin coat of vaseline. Put a little vaseline on a cloth, apply it to the silver, then take another soft cloth and rub off as much of the vaseline as possible. This will form a film to prevent tarnishing. Never put silver away in a wooden case, for the sulphur in the cloth will tarnish it."

WINTER IS POOREST TIME FOR GOOD BREAD MAKING

Success Depends Largely on Temperature, Says Expert—Too Much Kneading Impairs Flavor

Winter is the poorest season of the year for successful bread making, according to domestic science teachers in the Kansas State Agricultural college. It is difficult to maintain the proper temperature at this time of year.

"The temperature of the dough should range between 70 and 90 degrees, depending upon the season," says Miss Virginia Meade, instructor in domestic science. "The dough should be kept at the minimum temperature in summer and the maximum temperature in winter."

"Heavy bread is caused by unfavorable temperature, old yeast, or the use of poor flour—that is, flour which does not contain the proper amount of gluten. Keep the temperature below 45 degrees and the action of the yeast will be retarded until a higher temperature is maintained. Continued low temperature means heavy bread. Coarse bread is caused by insufficient kneading. Too much working makes lighter and whiter bread but impairs the flavor. The flavor is also influenced by the cleanliness of the utensils used.

"Good dough is often spoiled in the baking. Individual pans should be used to insure thorough baking. A hot oven is necessary at first to form the crust and then the temperature is gradually diminished. The ideal crust is from one-sixteenth to one-eighth of an inch in thickness. According to tests, 45 minutes has proved sufficient for a small loaf and one hour for a large one.

"The care of the loaf after baking has much to do with the maintenance of its texture and flavor. If put away while warm or moist molds will form. The loaf should be cooled in a current of air and kept in a tin or earthenware jar."

COLLEGE TOWNS DON'T WANT THE BEST READING MATTER

Remarkable Remark by Professor Pearson Is Quoted in Independent

J. W. Pearson, professor of the English language in the agricultural college, broke into Hamilton Holt's catalogue of celebrities this week. In the Independent's column, "Remarkable Remarks," Mr. Pearson is quoted as saying, "Few of the better class periodicals are sold in a purely college town." Professor Pearson is in good company—among others quoted in the column are King Constantine, Cardinal Gibbons, William Howard Taft, and John Galsworthy.

WENTWORTH IS HONORED BY SCHOLARSHIP FRATERNITY

Local Professor Is Provincial Secretary of Phi Kappa Phi

At the biennial convention of the honorary society of Phi Kappa Phi, E. N. Wentworth, professor of animal breeding in the college, was elected one of the provincial secretaries. The constitution was revised and other important business transacted at this meeting.

Professor Wentworth was active in the securing of a chapter of the organization in this college.

The statistics on the deer shooting season show that the hunters averaged about one-half a deer and one-tenth an acquaintance apiece.—Grand Rapids (Mich.) Press.

WRONG TO WASH EGGS

SELL THEM FOR WHAT THEY ARE—DIRTY—SAYS SHERWOOD

They Decay Quickly and It's Dishonorable to Try to Palm Them Off as Clean—Sanitation Will Raise Quality of Product

A soiled or washed egg decays much sooner than one which has never been dirty, and for that reason the chicken houses and yard should be kept in a clean and sanitary condition, points out Ross M. Sherwood, specialist in poultry husbandry, division of extension, Kansas State Agricultural college. He says it is dishonorable to sell washed eggs as if they had not been soiled.

"One nest should be provided for every five or six hens," says Mr. Sherwood. "This is important because when only a few hens have to lay in a nest there will be fewer dirty eggs. The location of the nests is important. They should be where the hens will use them—nests are not for roosts—and in places where the eggs may be gathered conveniently. When the nests contain plenty of nesting material fewer broken and dirty eggs are produced.

GATHER EGGS FREQUENTLY

"In muddy weather it will be found advisable to gather the eggs twice a day. The importance of frequent gathering is realized when one knows how each hen which enters a nest with muddy feet wipes her feet on the eggs in the nest, then lays a clean egg and leaves the nest without soiling her own egg to any extent."

Even with due precautions, declares this expert, some dirty eggs will be gathered. These should be used at home if possible. If more are gathered than can be consumed at home they should be sold as dirty eggs instead of being washed and sold as eggs which have never been soiled. An egg which has been soiled or washed decays much quicker than one which has never been soiled at all.

"It is plain to see that if one has taken the precautions which are practical for the prevention of dirty eggs," comments Mr. Sherwood, "it is not disgraceful to sell as dirty eggs, those which cannot be consumed at home. It is not honorable, however, to wash eggs and in that way try to put them in the class with clean eggs which keep so much better than the dirty or washed product."

ANNOUNCES LAST CIRCUIT OF FARM AND HOME INSTITUTES

Extension Division Will Close Series with 30 Meetings in Kansas Towns

The last circuit of farm and home institutes to be held this season has been announced by Edward C. Johnson, dean of the division of extension in the Kansas State Agricultural college. The list follows:

Carl P. Thompson, specialist in animal husbandry, and Miss Mary Hoover, specialist in home economics—February 21, Oakley; February 22, Grinnell; February 23, Grainfield; February 26, Bunker Hill; February 28-29, Russell; March 1-2, Abilene.

P. E. Crabtree and Miss Louise Caldwell—February 21, Kipp; February 22, Gypsum; February 24, Little River; February 25, Windom; February 26, Bushton; February 28-29, La Crosse; March 1, McCracken; March 2, Brownell; March 3, Ransom; March 4, Utica; March 6, Raymond.

Ross M. Sherwood, specialist in poultry, and Miss Stella Mather, specialist in home economics—February 21, Hoyt; February 22, Potter; February 23-24, Oskaloosa; February 25, Richland; February 26, Overbrook; February 28, Delavan.

G. E. Thompson, specialist in crops, and Miss Alice Poulter, specialist in home economics—February 21, Ada, February 22, Barnard; February 23-24, Lincoln; February 25, Waldo; February 26, Natoma; February 28, Plainville; February 29, Palco; March 1-2, Hoxie.

Ninety-five per cent of the enlisted men in the United States Navy are Americans.

SHOWS WHAT COLLEGE HAS DONE FOR WESTERN KANSAS

PRESIDENT H. J. WATERS CONTRASTS EARLY AGRICULTURAL EFFORTS WITH MODERN, WELL BALANCED FARMING
—CROPS AND METHODS DEVELOPED

What the agricultural college has done for western Kansas, was pointed out by President H. J. Waters in an address at the Fort Hays Kansas Normal school Tuesday. The address was made in the exercises in celebration of President's day there.

Doctor Waters contrasted early agricultural efforts in the western part of the state with the present modern, well adapted farming. He showed the part played by the college and experiment station in developing crops suitable to specific conditions of soil and climate and in discovering and advocating the most efficient cropping methods and general agricultural policies.

"At the present time," said the president, "there is no chance for a general crop failure in Kansas or on the place of any farmer who uses good judgment in selecting his crops and in caring for them. There are crops definitely adapted to every part of Kansas, and experiments and investigations have shown the farmer how to plant these crops and obtain the best results. In 20 years the annual value of Kansas agricultural products has tripled. The increase is probably greater in western Kansas than in any other part of the state. The values in Ellis county have practically quadrupled. In Finney county they have tripled. In Trego county they have increased six times."

SORGHUMS SHOW BIG GAIN

"One of the largest factors in the betterment of agriculture in western Kansas was the improvement of the sorghums. Sorghums have been grown in Kansas for a long time, having been brought here originally for the purpose of obtaining sugar. They were tall, leafy, not uniform, and ill-adapted to the climate. In 1888 a few rows of kafir, then practically unknown in America, were planted at the agricultural college in Manhattan, and from that time to this the college and experiment station have been experimenting with the grain sorghums, testing new kinds, developing varieties adapted to Kansas conditions and investigating the best methods of cropping and the most economical ways of using these crops.

"In 1893 occurs the first record of commercial growth of the grain sorghums in Kansas. In that year their total value was approximately \$650,000. In 1914, there was grown in western Kansas, or that part of the state including and west of Smith, Barton, and Barber counties, \$3,159,082 worth of kafir, \$1,606,491 worth of milo, and \$698,179 worth of feterita. The total value of these three crops to the state for that season was \$19,330,685. In 1915 the value of the kafir, milo, and feterita produced in Kansas was \$20,332,869. In 20 years these crops have added approximately \$190,000,000 for the produced wealth of the state. In the same 20 years \$75,000,000 worth of the saccharine sorghums have been produced. The money value of sorghums to Kansas is greater than that of any other product except wheat, corn, and live stock, and the successful keeping of live stock in western Kansas is dependent largely on the sorghums.

RIGHT VARIETIES DEVELOPED

"The agricultural college and the United States department of agriculture are entirely responsible for the grain sorghum crops adapted to western Kansas. Through nearly 30 years of careful study at Manhattan and through more than 12 years of investigation at Hays, the sorghum types, originally not at all fitted to the conditions of the state, have been modified until the grain sorghums have become the biggest factor in the future development of western Kansas. Dwarf milo, white-hulled kafir, and dwarf black-hulled white kafir are

among the results of experiments at Hays. These varieties have been so carefully worked out that their adaptability to specific sections of the western part of the state is definitely known.

"The value of the adaptation of the sorghums to western Kansas conditions is shown by a test recently made at Tribune comparing the adapted seed used in Greeley county with other varieties obtained elsewhere. The dwarf kafir, adapted to western Kansas, yielded 25 bushels an acre, while white-hulled white kafir from central Kansas gave but 12 bushels, black-hulled white kafir from eastern Kansas, 7 bushels, and kafir imported from Africa, 3½ bushels.

ALFALFA OF THE UPLANDS

"The introduction of feterita, which already has meant more than \$2,000,000 to the state, was brought about by the experiment station. Sudan grass—the alfalfa of the uplands—which gives greater promise for hay than any other western Kansas crop, was introduced by the station. The station at Hays carried out the most extensive feeding tests made anywhere in the world with Sudan grass.

"The red amber and Kansas orange sorghums, improved saccharine varieties of sorghums, are now being distributed in western and central Kansas.

"Two of the big problems confronting the western Kansas farmer have been to secure varieties of wheat and of corn adapted to the climatic conditions. The agricultural college and station have carried on variety tests with wheat which have succeeded in producing strains that yield on the average several bushels more than those commonly grown, and have developed methods of culture and crop rotation that have still further increased the yield. Further efforts in this direction are now being made, the purpose being to obtain a smaller growing, earlier maturing, and more drought resisting wheat for the western one-fourth of the state than any which is now being grown.

SOIL BLOWING IS CONTROLLED

"For the control of soil blowing, which was one of the chief difficulties involved in dry farming in certain parts of western Kansas, the experiment station of the college is responsible. Methods of control were developed at the Hays, Garden City, and Tribune stations, and were applied to vast areas of western Kansas land with the result that 64,000 acres have been entirely reclaimed.

"The elimination and control of insect and other pests have been brought about through the work of the experiment station. Grasshoppers, which 40 years ago devastated western Kansas to such an extent that financial aid from outside was necessary, are no longer able to gain a foothold. The poison bait, originated by the entomology department, has proved effective not only in Kansas but in other parts of the United States and even in foreign countries, agricultural journals in which have commended the Kansas plan. The prairie dogs were practically driven from the state through the work of the zoölogy department."

COLLEGE MEN TO ADDRESS LIVE STOCK ASSOCIATION

President Waters and Doctor McCampbell on Program of Big Kansas Meeting

Dr. H. J. Waters, president of the college, and Dr. C. W. McCampbell, assistant professor of animal husbandry and secretary of the Kansas Horse Breeders' association, are among the speakers announced for the annual meeting of the Kansas Live Stock association in Wichita February 8, 9, and 10.

An attractive program has been ar-

ranged, comprising speeches by prominent live stock men from Kansas and other states and numerous entertainment features.

The Kansas Live Stock association has been in existence more than 20 years. It was reorganized, however, late in 1913 and has built up a membership of now more than 1,000. It is the hope of the organization to reach ultimately a membership of 5,000.

COLLEGE SHOPS HAVE MUCH NEW EQUIPMENT

Students Will Gain Information as to Use of Modern Labor-Saving Machinery—Cost System in Operation

The department of shop practice in the agricultural college has added considerable valuable equipment this year for the instruction of students.

A Fay and Egan saw in the carpenter shop which takes a 20 inch circular saw and cuts six and one-half inch oak with ease is a great time saver. It replaces the smaller saw that has been in service 26 years.

Another valuable piece of machinery in the carpenter shop is an eight inch jointer, or hand planer, which is used for straightening the edges of boards that are to be dowled and glued together, such as pieces for table tops, doors, and various pieces of furniture. Formerly this work had to be done by hand.

The grindstones used by the students in carpentry and woodwork have been moved into the bench room and connected up with an individual Westinghouse half horsepower motor. This enables the instructors to supervise the sharpening of the woodworking tools to better advantage and at the same time makes it unnecessary to run the 25 horsepower motor which drives the woodworking machinery and which formerly drove the grindstones also.

Because of the termite ravages the wooden columns in the woodworking machinery room have been replaced by steel and concrete. All overhead shafting has been removed, adding greatly to the appearance of the room as well as lessening the disturbance to the classes meeting above.

The foundry has received a molding machine which does away with all the packing of the sand by hand, and makes it possible for any one to pack the sand uniformly and properly.

A complete set of sheet metal working tools has been added to the machine shop equipment. This will enable the shops to give useful work in laying out, forming, bending, soldering and other operations on sheet metal.

While all this equipment increases the rate of production and lessens the necessary skill of the workman, the student will not fail to acquire manual skill, as the operations performed on the machines must first be learned with the hand tools. With this knowledge the importance and value of machine production are more clearly brought to mind.

A time clock, or calculograph, has been installed in the machine shop for recording the time when the workmen start work and the time when they quit. This particular time clock also stamps the date, the hours, and the tenths of hours the man has worked. It is an important part of a cost system and is valuable from this standpoint as well as in acquainting engineering students with modern time-keeping and cost keeping methods.

A Brown and Sharpe universal grinder has been added to the machine shop equipment. This makes it possible to accurately grind pistons, piston rings, mandrels, crankshafts, bearings, and various other machine parts to 1-10,000 of an inch when it is found necessary to work to this degree of accuracy.

Dies for making chisels, punches, and various other tools are under construction in the machine shop for the 400 pound Erie steam hammer which was built in the shops last year. This will enable the advanced students in forging to obtain practice in machine forging, and will greatly aid the shop men in the upkeep of the shop tools.

STUDENTS BUILD HOUSE

IT'S A MINIATURE STRUCTURE BUT THOROUGHLY MODERN

Young Men Who Take Woodworking Plan Also to Erect Model Barn and Garage—Little Buildings May Be Used for Demonstration Purposes

A model eight room house in process of construction in the woodwork shop of the Kansas State Agricultural college is attracting attention. It is the first of a set of three miniature buildings—a barn and a garage are to follow.

This house—its ground dimensions are 9 feet 4 inches by 12 feet 8 inches—is truly a model. It is perfect and modern in every detail, even including the latest type of sleeping porch. Every joint is fitted carefully, every dimension measured accurately.

"There is no use in making such a building unless it be perfect in every detail," said J. T. Parker, assistant in woodwork.

IT'S SOUGHT FOR PLAYHOUSE

Many letters from children have arrived requesting the little building for a playhouse. It is a problem how to keep it for college purposes. The exact use to which it will be put is not definitely decided. Mr. Parker tells of a number of suggestions which have come to him.

"Perhaps the domestic art department will supply the inside furnishings when the house itself is completed," he remarked. Another possibility is that the extension department will wish to use the model in demonstration work over the state. Still another suggestion is that it should be set up somewhere on the college grounds as a unique campus decoration. I am unable to tell just what will come of our efforts.

"The roof is made so that it may be removed, and the rest of the house is also capable of being taken from its base so that it may be carried out through the large double doors of the shop.

A TASK TO BUILD IT

"It is practically three times as laborious to build this house as it would be to erect a large one. A mistake of one thirty-second of an inch in measurement means as much as three thirty-seconds of an inch would in a large house. We have to manufacture all of our building materials upon a dimension scale of just one third that used in a full sized building.

"Every piece of flooring and siding, every shingle and every window casting must be made to order. Students who prefer this kind of work and those who care to work on extra time have been constructing the house."

Features of the house are the spacious window area, the large reception room, the inclosed sleeping porch, and the devices for the exclusion of odors of the kitchen from the rest of the house.

THE BOSS DOESN'T WORK ON AN ARGENTINA FARM

Labor Is Performed by Peons, Says Former College Student—They Use Modern Machinery and Waste Their Horses

They do things differently there! In Argentina farming operations are conducted on a large scale. The great ranches, the acres of which are computed in thousands, are managed by overseers or directly by the owners. The work is done by peons.

Ivar Mattson, a former student of the college, recently returned from South America, where he was employed as agricultural development agent by the Central Argentine railway. He tells an interesting story of conditions and customs in the country.

"It is a rich country and is producing great wealth—for the controllers," says Mr. Mattson. "The ranch owners consider it beneath their dignity to work. The peons, who perform all the manual labor, are the native people. They dress much the same as do the Americans, although perhaps they do not wash so often or observe the same degree of neatness. All that may be said about them, however, is in the negative. They do not live—they just exist."

"They have no community life, no social entertainments, and do not even have decent houses. Their food is poor and their moral code is not of the best. Their houses are made by setting a few sticks upright in the ground and plastering them with adobe. The roofs are made of corrugated sheet iron, or if enough of the imported kerosene is used on the ranch, the cans are split and used as shingles.

"The peculiar six ton grain carts with seven foot wheels that are an oddity to an American who travels for the first time in the rural districts, are drawn by from 10 to 15 diminutive horses, each attached to shaft, axle, or cart side by a single tug.

"Collars and chain tugs are sometimes used on the horses, but it is a common method of hitching to attach a single tug from a girth which is buckled just back of the forelegs. Such methods of hitching are of course cruel, but horses are cheap there. Sometimes they do not stand up under this treatment very long, but there are always more horses. American machinery of the latest type is used and the small horses are tacked on in sufficient numbers to manipulate it."

BACK YARD IS PASSING; WHO'LL TOLL ITS KNELL?

Garden Is Replacing Ancient American Convenience, Asserts Expert—Attractive Grounds Mean Better Work

The back yard, which usually is simply an American convenience for trash dumping, is doomed, in the opinion of Miss Araminta Holman, instructor in home art in the Kansas State Agricultural college. It is being replaced by the well kept garden.

"The back yard is a useless bit of ground—an extravagance," says Miss Holman. "It is usually the dumping ground for rubbish and garbage, and a place in which discarded articles from the house are piled in confusion. We may well be glad that it is passing and is being replaced by the garden which is in harmony with the rest of the grounds.

"The home is the index of character. Most people realize that they are judged by their homes, although they lose sight of the fact that the back yard is a part of the home. It should be as orderly, clean, and well arranged as the ball or living room.

"One of the greatest factors in education is environment. We are happier when surrounded by beautiful things. When we are happy we do better work.

"The most successful factories are surrounded by beautiful grounds. This is not necessarily because of the goodness of the heart of the employer. He realizes that he may get more work and better work from the employee if the surroundings are pleasant.

"If the successful managers of large factories see a money value in environment, we should profit by their experience and improve our surroundings. The back yard may be replaced by a garden or even a well kept lawn that may be a spot of beauty and used for recreation."

RED PEPPER DAYS HERE

(Concluded from Page One)

"All live stock remedies for internal use offered for sale in the state of Kansas, are supposed to be registered in the feed control office of the agricultural experiment station. Information concerning the composition of registered remedies may be obtained from the office. This department does not assume to recommend any preparation but to act only in an advisory way."

BASKETBALL VICTORIES BY AGGIES NOW TOTAL EIGHT

College Team Defeats Washington University in Two Games Here

The Aggies staged their seventh and eighth basketball victories of the season Wednesday and Thursday evening, defeating Washington university easily in two games on the local courts. The score of the first contest was 45 to 13, of the second 38 to 18. Eleven field goals by Reynolds formed the feature of Thursday's game.

THE KANSAS INDUSTRIALIST

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Number 18

TO GROW BETTER FRUIT

KANSAS WILL DEVELOP IN PROFITABLE INDUSTRY, SAYS GREENE

Horticulturist Points Out Value of Building Up Home Market—There's No Profit in One-Line System of Farming

DEVELOPING FRUIT INDUSTRY

The evolution of fruit growing in Kansas has been so rapid in the last few years it amounts almost to a revolution.

It has taken farm management surveys to show the general farmer that there are no profits in a one-line system of farming.

Cheap home storage will mean a steadier and more even movement of fruits, especially the late fall varieties.

Development of the home market eliminates all charges for transportation, and does away with the profits of the wholesaler and retailer.

While Kansas will never grow the number of bushels of fruit that she has grown in the past, she will produce many more thousands of bushels of good, marketable produce than ever before.

These are some points brought out by George O. Greene, lecturer on horticulture, division of extension, Kansas State Agricultural college, in discussing questions pertaining to the future of fruit growing in Kansas.

"Fruit growers have realized for some time that there are no profits in a one-line system of farming, and almost all the really successful growers have been gradually working into some additional line," says Mr. Greene. "The man who previously grew apples alone is putting in cherries or strawberries or some other line of fruit in order that he may make his factory work more months in the year than previously. Some growers are even taking care of their byproducts in order that they may have an income in the slack months."

CARE FOR ALL WASTE

"This development of two or more lines of endeavor on the fruit farm is going to be much more rapid within the next five years than it has been within any period of double that time heretofore. The steadily growing demand for byproducts direct from the plantation is going to mean that our growers will meet that demand and many farms will be equipped with proper machinery to take care of all the waste and byproducts of the plantation.

"It has been said that the strawberry grower often wastes from 20 to 25 per cent of his crop on account of slack markets, rains, or some other cause. The western cherry grower packs his cherries in barrels with an equal amount of sugar, placing the barrels in cold storage, then shipping to the soda fountain trade as the product is needed. The same methods are now being used with strawberries to advantage.

"We have made great advances along the line of storage, and the grower has seen that, if he uses commercial storage, he must be in a position to hold his fruit until after the first of February when home storage stuff is off the market. There is, however, a tendency on the part of a great many growers at the present time towards longer home storage. A great deal of advance has been made along this line within the last three or four years.

FOR CHEAP HOME STORAGE

"If good, cheap home storage becomes general and the storage is effici-

ent enough so that average growers of good fruit can store their stuff for the winter and early spring trade without paying the present prices for storage space, it will mean a steadier movement of fruit, especially the late fall varieties.

"The man with a car or two of apples has not in the past been able to store his fruit and has been compelled to sell on the harvest market, which is always low. If he is able to store at home and prevent the usual harvest glut, he will be able to demand better prices for his fruit.

"Transportation and storage have both worked to the end that all products shall go through a central market. Growers are beginning to wake up to the fact that more of their products are consumed much nearer home. If the effort is made to carry on a publicity campaign during the harvest season, it will draw in the local buyer and local consumer, thus saving the cost of distribution through a central distributing point.

PROFITS FROM LOCAL TRADE

"A large percentage of the growers in Kansas this year report their best profits from this home trade. They have eliminated all charges of packages, storage, transportation, and the profits of the wholesaler and retailer. The neighbors have been able to buy fruit at a much lower figure and both the consumer and the producer have profited by the arrangement. Publicity and advertising are going to be among the greatest factors in the promotion of the fruit industry.

"The mistake that was made in early days of planting the orchard and fruit garden as a farm side line will not be made in the future. The growing of fruit is a special type of agriculture.

"The fruit plantation of the general farm is going to be of a size that will furnish the farm supply only. The localities in which fruit will be grown on a commercial scale will be more sharply marked than in the past. Some of the sections throughout Kansas where fruit growing will be carried on a large scale undoubtedly will be northeastern Kansas, the Arkansas valley, and perhaps the river valleys of northern Kansas. There are some small areas through southeastern Kansas where fruit growing can be made a profitable venture, but these localities are small as compared with the northeastern Kansas section and the Arkansas valley section.

GROWERS TO COME TOGETHER

"The drawing together of the territory of profitable fruit growing is going to mean the drawing together of the growers who are interested in that type of agriculture. Organization for a common purpose will undoubtedly receive considerable attention in the state. This organization will not be general for a number of years, but growers are becoming more interested in fruit growers' associations and selling exchanges than they have been in the past.

"In short, commercial fruit growing will be taken up by men who have both a taste and training for that type of work, and the man who has been growing fruit as a side line with other farm endeavors will find that it is less and less profitable and will gladly turn it over to the man who makes it a life study.

"The large one-type plantation of apples or peaches is going to prove less profitable in the future than in the past, and in fruit growing several kinds of fruit will show a better profit as time passes. This will mean closer organization of the fruit growing interests. While Kansas will never produce the number of bushels of fruit that she has in the past, she will produce a good many more thousands of bushels of good, marketable stuff than she has produced before."

The reason why some people are dishonest, says he, is because they are not interested in their work. They are lazy because they do not enjoy what they are doing.

FARMS IN GREAT CITIES

DR. J. H. FRANCIS SEES THEM AS EDUCATIONAL DEVELOPMENT

Children Have Too Much Unoccupied Time, Says Los Angeles Superintendent—Chewing Gum and Candy Displace Essentials of Life

Farms run by real farmers right in the crowded city are an educational development seen in the not far distant future by Dr. J. H. Francis, superintendent of the Los Angeles schools, who addressed the faculty of the agricultural college Thursday.

On these farms there will be truck gardening, poultry, rabbit raising, and all the other activities that delight the active boy.

School children have too much unoccupied time, believes Doctor Francis. They go to school for but a few hours on less than 200 days of the 365.

MOTORMEN VS. COLLEGE STUDENTS

Flexible courses of study were urged by the speaker, who took a rap at the old-fashioned notion that courses should be mapped out with so many pages assigned each term.

"I have seen motormen," he declared, "that would make better students than half of those already in college. But they can't get in. It's too easy to stay in college and too hard to get in."

"Sometimes I feel that I would like to wake up some morning and find every course of study wiped off the map, every textbook burned, and every work on pedagogy destroyed."

THIS BOY LEARNED SOMETHING

Doctor Francis is for giving the boy or girl instruction in the field which interests him and in which he has ability.

"A boy went into a library and asked for a book on rabbits," said he. "He read those books for two hours and a half utterly oblivious of the passing crowd. He had rabbits at home—he was interested in them. At the end of the two hours and a half he knew more about rabbits than the high school graduate who wrote his thesis on rabbits. The boy wanted to know about rabbits. The high school graduate wanted to write about rabbits so that henceforth he would never have to know anything about them.

"We haven't yet learned how to invest in boys and girls," continued Superintendent Francis. "We give them too much chewing gum and candy, and too little of the essential things of life."

MAKE BAD BOY CARTOONIST

"The time is coming when big cities like Kansas City will have farms for the boy to learn agriculture. They will have music centers where every child may learn to play. Girls will learn about costume and design. These opportunities will be free to all and you may depend upon it that they will be well patronized. The bad boy will be caught cartooning. It will appeal to him, but he will soon see his need of literature, history, and science."

Doctor Francis holds that the world rests too much upon leaders.

"The problem of making men and women out of boys and girls," he commented, "is the problem of the age. I have a theory that it is unnecessary to lose one of them."

Superintendent Francis thinks that by the time a boy is through the ninth grade he should have found his life work. One of the greatest functions of modern education, he believes, is to help the youth to "discover himself"—to find his natural bent so that he may take steps to develop it to the fullest extent.

The reason why some people are dishonest, says he, is because they are not interested in their work. They are lazy because they do not enjoy what they are doing.

Doctor Francis addressed the students in education Thursday afternoon. In connection with his talk he used the motion pictures which won the prize at the Panama-Pacific International exposition. They show the manifold activities of the Los Angeles schools, including cooking, sewing, weaving, laundering, gardening, folk dancing, and typewriting. Doctor Francis expressed himself strongly in favor of typewriting in the school, explaining that it tended to clarify the pupil's grammar and spelling.

The schools of Los Angeles emphasize self-expression on the part of the child, and attempt also, with marked success, to reach the parents.

There are eight schools in the districts in which foreigners live. In these schools are found weaving, manual training, pottery, and other arts and crafts. The mothers in these communities are welcomed to use the looms, or to do their washing in the school laundry. In the day nursery from 45 to 50 children are cared for daily.

SOCIETY MUST FEED CHILD

"We found that many of the children were underfed and as a natural result these children were backward," said Superintendent Francis. "To remedy this condition we instituted the penny lunch system in the schools. For a penny a child will have a bowl of soup and all the rolls he can eat. Those who have not the penny are also allowed in the line. I believe that it pays every city to feed the children who are underfed. Society has no right to allow any child to go hungry."

A model cottage is kept in the Russian district. Two of the teachers live in it. Here every opportunity is given to the neighbors to learn better standards of home keeping.

Cooking begins with the fifth grade and ends with the eighth grade. The children design, cook, and serve the food to the teachers, who pay enough to cover the cost.

French, Spanish, and Latin are taught regularly in the seventh and eighth grades. In the Cosmopolitan school they are taught even in the fourth and fifth grades. The only accredited school of naturalization in the United States is found in Los Angeles.

Children doing home work receive credit in the schools.

Nature study is made natural and interesting. Doctor Francis referred, as an example, to one class in zoology which was taught by requiring the pupils to bring their pets to school for exhibition.

PROGRAM WILL APPEAL TO ALL FRIENDS OF CHILDREN

Manhattan Christian Brotherhood Will Discuss Play—Principal Address by President Waters

Of special interest to parents, teachers, and all others concerned with child welfare will be the program of the Manhattan Christian brotherhood Tuesday evening. The meeting, which will open at 8 o'clock, will be in the First Baptist church, and will be open to all, women being particularly invited.

The feature of the evening will be an address on "Play" by Dr. H. J. Waters, president of the college. Doctor Waters, it is expected, will treat the importance of play in the life of the child and give valuable suggestions for effectively utilizing this activity in education.

The address will be followed by general discussion led by the brotherhood committee on juvenile problems, of which Dr. A. H. Bressler is chairman. It is hoped to take steps leading definitely to an improvement in the play facilities for the boys and girls of Manhattan.

ONIONS OR POTATOES?

APART FROM SMELL, THEY TASTE ABOUT THE SAME

Food Preferences Are Largely a Matter of Imagination, Anyhow, Says Davis—Advertisers Surround Their Goods with Attractive Atmosphere

"Taste is largely a matter of imagination, largely a matter of sentiment," was the statement made by H. W. Davis, associate professor of the English language in the Kansas State Agricultural college. He spoke to the student assembly Wednesday morning on "Advertising Things to Eat." Mr. Davis teaches agricultural advertising and has had practical experience in the advertising field.

"People do not know what tastes are," said Professor Davis. "How many adjectives have you in your vocabulary which are descriptive of taste?"

"The meat tasting game is very interesting and you should try it at your next party. Suppose you take any number of individual meats and chop them up. Do not season them, but get them to looking as much alike as possible, and then pass them around and see how many will be able to distinguish the different kinds of meat."

WHY WE LIKE GAME

Professor Davis asked his audience to try to recall and describe what a raw turnip tasted like. He said that tests had been made where chopped onions had been called raw potatoes, but this was when the smelling apparatus was out of commission.

"Taste is largely a matter of imagination and atmosphere," said Professor Davis. "We like turkey better than we do chicken, and the reason we like turkey is because it is associated with big, fine Christmas dinners. Which would you rather have, duck or wild duck? We have, in connection with wild game, the pleasing, enjoyable associations of the hunt. That is the reason we like quail better than chicken."

COUNTRY PRODUCE POPULAR

"There is a strong prepossession in favor of country produce. 'Firm, yellow country butter' sounds a good deal better than merely 'butter,' 'fresh eggs' than merely 'eggs.' We don't like to be told about eating hog, cow, and sheep. We would rather think of it as bacon, beef, and mutton. We know we are carnivorous, but we do not like to be reminded of the fact."

The speaker said that a great many articles which are advertised extensively today are in great demand because there has been built up about them a pleasing atmosphere by their being advertised with elegant associations.

"Within the last ten years," continued Professor Davis, "a great amount of goods has been put up in packages. This has become a part of the atmosphere of the food. The advertisement must look good and make you think that the article will taste good. It must get the taste all ready for you or at least suggest it. It is the business of the advertiser to create as far as possible an atmosphere for his food, so that when you buy that article it will taste just about as the advertiser said it would."

ASHES FROM COAL, NOT WOOD, FOR POLISHING SILVERWARE

Dr. H. W. Brubaker Discusses Possible Substitute for Whiting

Coal ashes, rather than wood ashes, are advocated by Dr. H. W. Brubaker, assistant professor of chemistry in the agricultural college, as useful in polishing silver. Doctor Brubaker has been quoted as favoring wood ashes. The substance is used, however, in place of whiting, and wood ashes contain too much soluble material to make the best abrasive.

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J. D. WALTERS.....Local Editor

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SATURDAY, FEBRUARY 12, 1916

Newton goes into the records as a sure-enough metropolis. It's to stage a cabaret dance this week.

"Grammar don't cut any ice with the Lord," preaches Billy Sunday, and practices what he preaches.

A Wisconsin representative has introduced a resolution to move the United States capital to Milwaukee. No, not for fear of foreign attack—for fear of prohibition in the District of Columbia.

It has remained for a foreigner, Alphonse Desjardins, to found the first coöperative credit bank in the United States. Many lessons in rural business may be drawn from Europe, but there should be Americans enterprising enough to take advantage of them.

TOO MUCH WASTED TIME

Dr. J. H. Francis, superintendent of the Los Angeles public schools, pointed out one of the most striking weaknesses of present day education when he said children had too much unoccupied time.

Young people spend a few hours a day in school, the rest largely in unorganized, unprofitable play. A good part of each day is wasted. Organized play and organized work are both needed. They will not only direct the boy to the type of life work for which he is fitted, but will at the same time give him the social contact with others which will help him in any life work. Too many people are trying to fit children to educational systems of yesterday instead of to the real life of today.

AN UP-TO-DATE PRIZE

It remained for a New York woman to go every other woman in the world one better in prize giving. At a bridge party the other day, a wealthy New York society woman gave as the favor to the highest scorer, some preferred Standard Oil stock.

Time was when a 25-cent handkerchief, a fancy powder rag, or a book served equally well for this same purpose. Silk hose, guest towels, flowers, odd pieces of jewelry or silverware, all had their day, too, and fortunate indeed was the woman who received for top score a hand painted plate or a chic boudoir cap. But these simple things are passé. We are living in the twentieth century and the time of preferred stock prizes.

PAPER FROM GRASS

Paper made from grass is likely to be the next development in the movement to make the printing process as cheap as possible. Wood from which most of the cheaper grades of paper are made today, is being used in the United States three times as fast as it grows.

The United States department of

agriculture, which has been working for a good while on paper making materials, suggests that zacaton grass may prove to be a valuable paper stock. It is similar to wire grass and grows in Mexico and Central America. It is believed that it may be grown in the southwestern part of the United States.

Grasses have been extensively used in paper manufacture, though not in the United States. In exceedingly early times, paper was made from grasses in China. The expensive Japan vellum, now used in some of the most elaborate books published in America, is made from a reed. Spain, Algeria, and Tripoli furnish a grass which is similar to zacaton and which is used for paper manufacture in the old world.

If zacaton proves successful, it will be of great value to the printing industry in that it will furnish a material, the supply of which can be kept up much more readily than the supply of wood. This will make the cost of print paper considerably lower. A benefit will be conferred also upon the country as a whole, for whatever increases the amount of matter printed is an aid to democracy.

AN AMERICAN ARABIA

There are few Americans living east of the Rocky mountains and north of 37 degrees north latitude, who know of a bit of the orient which occupies a corner in the southwestern United States.

In this bit of desert land scarred with the convulsions of nature, is the home of the Navajo tribe of American Indians.

The country itself is not attractive to tourists, and the transportation facilities are so wretched that few people visit that section unless some stronger power than curiosity attracts them. And, if they do venture into the region, most of them remain along the valleys of the Rio San Juan and the Rio de Las Animas, where the white settlements are.

It is far from these valleys that the Navajo is found in his native state, unspoiled (the word is used advisedly) by association with the white people.

Seventy-five miles back from a white settlement, among the canyons and mesas and "just plain desert" exist camps of desert nomads, nomads who win a precarious life from the hunt, from their herds of sheep and goats, and from their tiny fields of corn. The corn itself is worthy of note. Through generations it has been developed to suit the arid conditions under which it is produced, until today it resembles only remotely the corn of the white man.

Here the nomads have remained for generations, and here their religion and customs are to be found unaffected by education of the white man's brand, for few children are taken to school from the hinterland.

Here the legends and traditions which are interwoven into an elaborate theosophy are handed down from father to son, by word of mouth, stories of beings closely corresponding to the jinn and afrits of the African Arab.

Here are cultivated the same qualities of hardiness, endurance, bravery, and revenge. Discipline is maintained by chiefs and subchiefs, for it is a corner into which the white man's law seldom comes, a country into which the white man himself rarely penetrates. There are camps in this section in which are living middle aged Indian men and women who never saw a white man.

The Navajos live a life to themselves, and are self sufficient. They receive no assistance from the government, in accordance with the terms of a treaty compounded years ago. They go their way according to their lights, untroubled by exterior conditions, and find the white man, when he comes under their observation, amusing and interesting, but a creature of no particular importance and not worthy of emulation.

A NEW STANDARD

We have measured boys and girls at school too exclusively by bookish standards; life is made up of many

things besides books. Study these children who are dull or slow in their books; find out what it is that they can do well; often they can play ball, or skate, or ride, or swim, or play a musical instrument, or sew, or cook well, or know the secrets of the forest or the waters. Cease to measure entirely by success in books; judge more from the real things of life. Let the child who has other accomplishments have some taste of success in school, not only for the joy of hearing commendation, but

Mr. A. C. Hiner, lecturer of the Marshall County alliance, visited college on Tuesday.

President Fairchild was called to Topeka yesterday by a meeting of the state board of education.

Handsome new typewriter desks in walnut and antique oak fill a long felt want in the president's office and the library.

Professors Failyer, Georges, and Mayo were on the program of the Wa-

THE FAR COUNTRY

Edward Wilbur Mason in the Craftsman

There was no shining street of gold,
But just a trail of green,
Where grasses ran across the mold
Beside a brook serene.

There were no amaranths of light,
Nor fadeless asphodel,
But just wee daisies shy and white
And violets in the fell.

There were no pearly gates ajar
Nor thrones from glory spun,
But just the quiet evening star,
And just the morning sun.

SUNFLOWERS

The trouble with the average orator is that he gets off the main track and reaches his terminal an hour and a half late.

AND YET HE REMAINS A MOVIE FAN

The movies themselves with their evil tendencies are bad enough, without adding to it by training dirty ushers.—Movie Fan in the Salina Journal.

The clocks in a barber shop are nearly always slow—always when the town shops are supposed to close at a fixed hour. We know one boss barber that never closes his place till he has sent the porter around the corner to see if his competitor's shop is shut up.

A GRADUATE AS CONTRIB.

To the Sunflower Editor:
I attach hereto a clipping from the Star.

You will note by reading this, that the Russians are driving the Turks into Mosh.

By golly, if the mush is scalding, killing hot, and lasts long enough, hallelujah!

I have for years hoped that some nation would beat the Turks into mush, and now praises be, the Russians are driving them into it.

After 18 months of horror in reading of foreign towns, the plain Yankee name of mush struck such a responsive chord in my culinary department, I could not refrain passing it on to you for your "sunflower" column. It's worthy of note, and THE INDUSTRIALIST as an agricultural luminary should encourage the Russian nation into greater efforts.

Can you reach the Czar, and in the name of milk, thank him for this mush?

Yours for corn meal,
H. C. RUSHMORE, '79.

THE WICKED PLUTOCRATS

Ten wicked plutocrats went out to dine,
One ate a square meal and that left nine.

Nine wicked plutocrats bought up a state,
One ran for governor and that left eight.

Eight wicked plutocrats contemplated heaven,
One tried to enter and that left seven.

Seven wicked plutocrats on the river Styx,
One rocked the private launch and that left six.

Six wicked plutocrats loafing in a dive,
The D. T. got one and that left five.

Five wicked plutocrats testified and swore,
A prosecutor trapped one and that left four.

Four wicked plutocrats out on a spree,
A chorus fairy winked at one and that left three.

Three wicked plutocrats with not a thing to do,
Ennui killed one and that left two.

Two wicked plutocrats walking in the sun,
One got a coat of tan and that left one.

One wicked plutocrat sad and alone,
He got busy and that left NONE.

Appreciating the Commonplace

L. H. Bailey

If a person has given any serious thought to public questions, he has his own contribution to make as to the causes of present conditions and the means of bettering them; so I make mine: what is now much needed in the public temper is such a change of attitude as will make us to see and appreciate the commonplace and the spontaneous, and to have the desire to maintain and express our youthful and native enthusiasms. And it is my special part to try, so far as possible, to open the eyes and the heart to nature and the common-day environment. My point of view is, of course, that of the countryman, and no doubt it has the countryman's bias.

So great has been the extension of knowledge, and so many the physical appliances that multiply our capabilities, that we are verily burdened with riches. We are so eager to enter all the strange and ambitious avenues that open before us that we overlook the soil at our feet. We live in an age of superlatives, I had almost said of super-superlatives, so much so that even the superlatives now begin to pall. The reach for something new has become so much a part of our lives that we cease to recognize the fact and accept novelty as a matter of course. If we shall fail to satisfy ourselves with the new, the strange, and the eccentric, perhaps we shall find ourselves returning to the old commonplace and the familiar, and perhaps we shall be able to extract new delights from them because of the flights we have taken. Perhaps in their turn the commonplaces will be again the superlatives, and we shall be content with the things that come naturally and in due order. Certain it is that every sensitive soul feels this longing for something simple and elemental in the midst of the voluminous and intricate, something free and natural that shall lie close to the heart and really satisfy our best desires.

It is not likely that we shall greatly simplify our outward physical and business affairs. Probably it is not desirable that we should do so, for we must maintain our executive efficiency. We have seen a marvelous development of affairs, expressed in the renovation of a hundred old occupations and the creation of a thousand new ones. Most of these occupations and businesses are clear gain to the world, and we may expect them to endure. This rise of affairs has emphasized the contrasts of business and of home. Machinery and complexity belong to affairs; but a simpler and directer mental attitude should belong to our personal and private hours. Perhaps our greatest specific need is a wholesome return to nature in our moments of leisure—all the more important now that the moments of leisure are so few. This return to nature is by no means a cure-all for the ills of civilization, but it is one of the means of restoring the proper balance and proportion in our lives. It stands for the antithesis of acting and imitation, for a certain pause and repose, for a kind of spiritual temper, for the development of the inner life as contrasted with the externals.

to build up self-respect and confidence.
—American School.

MANY FEDERAL PUBLICATIONS

The annual report of the editor of the United States department of agriculture shows that during the fiscal year ending June 30, 1915, 913 new bulletins, pamphlets, circulars, reports, and documents of all kinds were issued. Of these 836 were miscellaneous publications contributed by various bureaus and offices and 77 were new farmers' bulletins. Of the latter a total of 5,870,000 copies were printed. In addition 243 farmers' bulletins were reprinted, the editions aggregating 8,925,000 copies. Altogether more than 36,000,000 printed copies of documents of all kinds, including reprints of earlier issues, were published.

A QUARTER CENTURY AGO

Items from The Industrialist of February 14, 1891
Regent Hessian visits Topeka this week in the interest of the college.

Mr. and Mrs. William Shelton left on Thursday to visit with relatives in Owasso, Mich.

baunsee farmers' institute, held Thursday and Friday.

Two football teams are soon to be organized, when the game will be presented according to rule. Some interesting contests are expected.

K. C. Davis, fourth-year, is called home to manage the Junction City Tribune during the absence of his father and brother on business of importance.

The seniors are reported to have thus early chosen material for the ball club with which they propose to engage the faculty in a series of games during the spring term.

Regent Moore and President Fairchild gave full information as to the wants of the college before the ways and means committee of the senate on Thursday evening of last week.

The crowded condition of the college library is causing serious difficulty in its use. All the available space is now occupied by books. About 2,000 more volumes are now temporarily stored in the various college departments and in a small office on the second floor of the main building.

AMONG THE ALUMNI

A. F. Yeager, '12, is in orchard work at Medford, Ore.

Frank Blair, '13, is visiting friends in Manhattan this week.

Miss Esther Lyons, '15, of Nickerson is visiting college friends.

Miss Evelyn Potter, '15, of Barnes will be in Manhattan for the oratorical contest.

Mr. M. A. Kent and Mrs. Florence (Corbett) Kent, '95, are at home in Rome, N. Y. They were married last summer.

G. T. Ratcliffe, '11, visited last week at the Aztec house. He is now with the agricultural experiment station at Bard, Cal.

Mrs. Ina Belle (Wilson) Mueller, '15, of Wichita will come to visit her sister, Miss Donna Faye Wilson, and to attend the oratorical contest.

John Wilson, '10, visited friends on the hill this week. He is on his way home from Chicago, where he has been taking graduate work in veterinary medicine.

Miss Margaret Ann Blanchard, '14, went to Ellsworth Tuesday to resume her position in the high school. Miss Juanita Reynolds has been teaching in the illness of Miss Blanchard.

F. W. Johnson, '15, visited Saturday and Sunday at the Aztec house. From here he went to Lawrence to remain a week. Mr. Johnson is in the hardware business with his father at Downs.

Walter F. Smith, '15, who is associated with his father in business at Mankato, was in Manhattan early this week on his way to Lawrence, where he planned to attend the merchants' short course.

Rees W. Hillis, '12, of Anderson, Mo., won the first prize of \$10 for apples exhibited at the Neosho Harvest show. He exhibited Arkansas black, York imperial, and mammoth black twig apples. This was the first time he had shown any products publicly.

E. E. Greenough, '06, and Mrs. May (Doane) Greenough, '04, of Merced, Cal., report great success with chickens and Jersey cows, which are the side lines they are carrying while developing groves of figs and almonds. Mr. and Mrs. Doane are spending the winter with them.

The Rev. R. U. Waldraven, '89, is a member of the Scoville evangelistic company, which is conducting meetings in Missouri and Iowa this winter. His family is residing at 105 Benton Boulevard, Kansas City, Mo. His daughter, Miss Jean Waldraven, a student here in 1912, is teaching in Rye, Col., this winter.

BIRTHS

Born, to Mr. Charles A. Scott, '01, and Mrs. Scott, Manhattan, on February 1, a daughter, Hazel Marie.

Born, to Mr. William F. Droege, '10, and Mrs. Helen Myers Droege, '13, DuBois, Nebr., a son, Frederick Williamson.

Born, to Mr. A. L. Burns and Mrs. Ruth (Gilbert) Burns, '14, 560 West 184th street, New York, on January 28, a son.

CHICAGO REUNION

The Kansas State Agricultural college alumni and former students of Chicago and vicinity held a reunion at the Union League club on January 23. This date was selected to conform to the date on which Prof. O. E. Olin, formerly of the college, now of Buchtel university, Akron, Ohio, would be in Chicago, and the much loved professor was greeted with sincere enthusiasm by all.

Mr. Edwin A. Munger was toastmaster for the occasion, and the following persons responded to toasts: Dr. S. W. Williston, Mr. H. M. Thomas, Mrs. Mary Lyman Otis, Dr. E. R. us."

Nichols, Mr. Walter J. Towne, Prof. Philip Fox, and Prof. O. E. Olin. Excellent music was furnished by Mrs. R. S. Kellogg and Mrs. Ione Dewey Sutherland. Letters of greeting were received from Mrs. Kedzie Jones, Dr. J. D. Walters, Mrs. Gertrude Coburn Jessup, Prof. Albert Dickens, and Mr. Henry B. Brown.

Those present were Mr. D. G. Robertson, '86, and Mrs. Robertson; Mr. S. N. Peck, '87, and Mrs. Peck; Mr. E. H. Freeman, '95, and Mrs. Freeman; Mr. John V. Patten, '95, and Mrs. Hortensia (Harman) Patten, '95; Mr. Royal S. Kellogg, '96, and Mrs. Kellogg; Mr. H. M. Thomas, '97, and Mrs. Jeanette (Perry) Thomas, '98; Mr. H. D. Orr, '99, and Mrs. Orr; Dr. L. B. Jolley, '01, Mrs. Jolley, and daughter; Mr. C. I. Weaver, '06, and Mrs. Laura (Lyman) Weaver, '06; Dr. E. R. Nichols and Mrs. Nichols; Dr. N. S. Mayo and Mrs. Mayo; Mr. E. A. Munger and Mrs. Munger; Mr. Charles E. Paul and Mrs. Paul; Mr. Walter J. Towne and Mrs. Towne; Mr. Will M. Towne and Mrs. Towne; Mr. L. E. Gaston and Mrs. Gaston; Mrs. Dewey; Mrs. Ione (Dewey) Sutherland, '93; Mrs. Mabel (Crump) McCauley, '96; Mrs. Mary L. Otis, '94; Miss Fannie Cress, '94; Miss Mabelle Sperry, '06; Miss Jane Chapin Tunnell, '89; Miss Bessie Tunnell; Dr. S. W. Williston, '72; Mr. E. T. Martin, '90; Mr. Grant Dewey, '90; Mr. D. H. Otis, '92; Mr. Thomas Lyon, '93; Mr. C. V. Holsinger, '95; Mr. Carl Adams, '95; Prof. Philip Fox, '97; Mr. McCauley; and Mr. Walter Taylor.

RESOLUTIONS ON MRS. WINCHIP

The following resolutions were passed by the Washington branch of the Alumni association of the Kansas State Agricultural college at the annual meeting January 17:

Whereas, it has been deemed best by the all-wise Father to remove to himself and from our midst our good friend, counsellor, and teacher, Mrs. Elida E. Winchip, for many years a member of the faculty;

Whereas, those of us who knew her as she went quietly, earnestly about the daily task feel that she truly taught us those lessons which help to glorify the day's work;

Resolved, that her life was an inspiration not alone to her many students but to all those whose lives she touched; that truly it can be said of her, "She hath done what she could;" and that like all true teachers her character and personality have exerted an influence upon the lives of the students and co-workers of higher and more lasting value even than that of her professional work.

The secretary of this association is instructed to spread a copy of these resolutions upon the minutes of our annual business meeting, and transmit a copy of the same with expression of our deepest sympathy to Mrs. Winchip's daughter, Mrs. W. R. Spilman, and to forward a copy to THE INDUSTRIALIST of K. S. A. C. for publication.

In behalf of the association,
Isabella F. Criswell, '94,
Silas C. Mason, '90,
Julia R. Pearce, '90,
Committee.

FROM A 1913 ALUMNUS

R. A. Baldwin, '13, writes from Atchison to the Alumni association:

"I gladly inclose a postal money order for \$1 for the assessment to be applied in educating the taxpayers.

"Although I have been in Manhattan but once since 1913, I receive the Daily Nationalist, THE INDUSTRIALIST, and the Collegian, and so am able to keep in touch with K. S. A. C.

"After graduating in June, 1913, I spent two months upon a Kansas farm, one month upon North Dakota farms, one week at a Montana land drawing, and approximately six months around Lewiston, Idaho, and Clarkston, Wash., with one trip to Seattle. There (Seattle) I saw our old quarterback, Harry Bates. He is married and working in the United States navy yard on Puget sound.

"I am married now and farming 40 acres belonging to my father. Any alumni in Atchison will please 'phone us."

CALLS TO WAR ON WORM

PROFESSOR DEAN IS AFTER ATTACKER OF KANSAS TREES

Now Is Time to Arm with Sticky Bands and Spraying Solutions, Urges College Entomologist—Pest Is Expected in Large Numbers

War has been declared! No, it is not with shot and shell that the fight is to be waged but with sticky bands and spraying solutions. The common enemy is the canker worm.

"To assure success in the combat too much emphasis cannot be laid upon the necessity of beginning early," says George A. Dean, professor of entomology in the Kansas State Agricultural college.

"In the case of shade trees or of a few fruit trees, a simple method, and one that gives excellent satisfaction, consists in banding the trunk of the tree with a sticky substance to prevent the ascent of the wingless females. The best method is to smear the sticky substance on bands of heavy paper, such as building or tarred paper, bound to the trunk of the tree.

"The paper bands should be put on in the first warm days of February or early spring, and the sticky substance renewed whenever the material hardens. In order to close all crevices between tree and band, a strip of cotton batting—cheapest grade—about two inches wide should be placed around the tree, and covered with the band of tarred paper. The paper should be drawn snugly enough to press the thick band of cotton into the crevices.

"The band can be easily fastened at the end with three sharp-pointed tacks about three-fourths of an inch long. If the paper band is much wider than the narrow cotton one it will completely cover it, and thus avoid the unsightly appearance of cotton either above or below the edges of the paper."

KEEP BANDS STICKY

A number of substances of a sticky nature are suggested by this authority. Among them are pine tar, coal tar, printer's ink, and dendrolene. The best substance, and one that remains

sticky for the entire season, however, is "tree tanglefoot." The tanglefoot should be spread upon the band with a wooden paddle, leaving a smooth coating one-eighth of an inch thick. On badly infested trees it is sometimes necessary to comb or renew the sticky substance frequently, as many of the females may be able to cross the bands over the dead bodies and wings of males, which may completely cover the sticky portion of the band.

The use of the sticky bands is especially recommended for large elms or other shade trees that would be difficult to spray. If the sticky substance is applied directly to the bark it will show as a disfiguring mark for many years, while if it is applied to bands of paper, the band can be removed from the tree at any time without leaving any sign or scar. Moreover, so much more of the tanglefoot is necessary to fill the cracks of the rough bark in making an efficient barrier that the cost equals that involved in the banding method.

SPRAY SMALLER TREES

The caterpillars may be quickly destroyed by spraying with arsenate of lead, using from two to three pounds to 50 gallons of water. This method is recommended for orchards and small shade trees. The first spraying should be done as soon as the foliage is partly expanded and before the trees bloom, and the second spraying as soon as the blossoms fall. If the apple trees are thoroughly sprayed for the control of the curculio and the codling moth, they are never seriously injured by the canker worm. Usually the first spray, sometimes called the cluster cup spray, is the more important, as the young caterpillars are much more easily killed.

Last spring the elms and some of the other shade trees over a large portion of the state were partly, and in many cases completely, defoliated by the spring canker worm. The injury done by the canker worm was not con-

fined to the shade trees, for many apple orchards were also seriously injured. Many shade and orchard trees were killed outright, while others were weakened and rendered susceptible to the attack of wood borers. While at this time it cannot be stated definitely, says Professor Dean, just how prevalent they will be during the coming season, they are, however, almost certain to prove serious and thus every effort should be made to prevent them from injuring the trees.

WOULD REQUIRE PRINTING AND JOURNALISM OF ALL

Prof. E. L. Holton Regards These Subjects as of High Educational Value—News-papers Essential to Democracy

Study of journalism and printing should be required of all college students, in the opinion of E. L. Holton, professor of education in the Kansas State Agricultural college, who spoke to a group of students in industrial journalism, advanced English and education Wednesday.

Professor Holton believes that learning printing is one of the best ways of becoming efficient in visualizing the printed page. Experiments have shown that students who have had a course in printing are from 20 to 21 per cent more efficient in silent reading than those who have not had such a course.

Printing also aids one, Professor Holton pointed out, in becoming efficient in spelling and punctuation. He told of tests which go to show that printing is one of the best means of teaching the student how to spell because he spells the words that he uses daily.

"Journalism is the best way in the world that I know of to motivate the work in English composition," said Professor Holton. "If you take a course in journalism, you motivate your English composition—you must write your story so that people will read it. In order to do this, you must pick out the striking things and leave out the nonessentials. It is really a great task to read some themes, and it seems to me that they are sometimes written with the idea that they never should be read.

"Then, journalism trains in the organization of ideas. You have to know not only the facts, but you have to know psychology, and you have to know human nature. You have to know what people read before you know what to write. There is educational value in knowing what people want, and thus journalism teaches human nature, sociology, and psychology.

"A knowledge of journalism creates a greater interest in newspaper and magazine writing and reading. The primary social ideas are created in face-to-face groups. Newspapers carry these ideas from social group to social group.

"Democracy is impossible without newspapers. If a course in journalism in college will create a real life interest in the reading of newspapers and magazines, certainly it is worth while."

DAIRY DEPARTMENT IS RUN ON MODERN BUSINESS BASIS

Students Carry on Practical Work and Products Are Sold

The dairy department of the Kansas State Agricultural college, in addition to carrying out the tests necessary for class work, sells its products and makes a reasonable profit. The work in preparing the products for market is done in the dairy building, where tests of cream are taken and butter is made. Milk is sold to a dairy in Manhattan.

Cream is delivered from farms to the creamery in the dairy building. Here weights and tests of the cream are made and recorded. This cream is made into butter by the students studying butter making. This product is printed and wrapped, and then placed in pound cartons. It is sold to residents of Manhattan at a price equivalent to that asked for the best creamery butter.

The total income of the people of the United States is \$35,000,000,000 a year.

BOYS AND GIRLS FARM

FEDERAL GOVERNMENT GIVES HELP TO YOUNG PEOPLE

Representative of Department of Agriculture Tells Students About Boys' and Girls' Club Work in Various States and Its Results

What the United States is doing to show the boys and girls of the country better methods of agriculture and hence increase production was told to the short course students by G. E. Farrell, of the states relation service of the United States department of agriculture. Mr. Farrell is a specialist in boys' and girls' club work.

"Club work in the United States was first organized in the southern section," said Mr. Farrell. "Four years ago it was introduced into the northern states and the first year the enrolment amounted to a little over 200. The enrolment has steadily increased until in 1915, 173,000 boys and girls were engaged in this work. The work is conducted on a project basis, each member growing an acre of corn, an acre of alfalfa, one-eighth of an acre of potatoes, caring for one-tenth of an acre of garden, or raising a pig. Every state in the northern, central, and western states now has a leader devoting all his time to the club work. Fifty-three men and women are employed in this line of extension work.

"This growth is due in part to the demand for this type of work among boys and girls. Extension work among adults is not so easy to conduct as that among young men and women.

HOW WORK IS DONE

"The plan for the work consists of enrolment and organization of a club with officers, a local leader meeting with the club from time to time, and a country or district leader to arrange for clubs, exhibits, and festivals. For example, field meetings are held during the summer season to study better methods of cultivation and methods of collecting and storing seed corn. In the fall an exhibit is held of the products. As soon as the crop has been harvested a report is made, showing the cost of production, including rent of land, labor, seed, and other items, and the net profit is computed. A story is then written explaining 'How I Grew My Crop.' This is forwarded to the state leader in charge of club work about December 1. This club work demonstrates better methods, interests the boys and girls in agriculture, and increases production."

The extension division of the college cooperates with the United States department of agriculture in club work. Mr. Farrell was here to consult with Edward C. Johnson, dean of extension, and Otis E. Hall, state leader of boys' and girls' clubs, in regard to further cooperation.

DIVISION OF AGRICULTURE SHOWS SUBSTANTIAL GAIN

Number of Students in Regular and Short Courses Increases Over Last Year

The division of agriculture in the Kansas State Agricultural college shows a gain of 91 students over last year. The enrolment to date this year is 724. Attendance for all last year was 633. Only 73 students who were in college in the fall failed to return for the winter term, while 95 additional ones registered for the present term.

These figures are exclusive of the short courses. The enrolment in the farmers' short course for 1916 is 213 as against 199 in 1915. Enrolment in the creamery short course is the same as last year, 18.

When the fall work is well out of the way is a good time to work up some of the surplus trees, waste lumber, and the like into fuel. It is often a great convenience to have firewood to burn even where coal usually furnishes the source of heat. In many cases working up the available wood supply on the place will work a great saving in the fuel bills and in any case it will help give the farm a neat and tidy appearance which always carries a cash value.—Successful Farming.

DO NOT USE DYNAMITE

IT USUALLY IS HARMFUL TO KANSAS CLAY SOILS

Investigators Show Actual Effect of Explosive in Tests Covering Three Years
—Fruit Trees Are Drowned Out and Grains Grow Poorly

The use of dynamite in heavy clay soils does not affect crop yield, moisture content, or formation of nitrates, while fruit trees make poorer growth where dynamite is used. This is

powder used, and partly by the moisture content and physical nature of the soil. The soil particles driven out from the center of the charge are forced into the pore spaces between the soil particles in the mass of soil adjoining.

Thus a cavity is formed, the walls of which consist of a hard, compact mass of soil. This cavity with its surrounding mass of soil, is often spoken of as the "dynamite jug." The soil composing its walls not only is very hard and badly puddled, but

feet produced a cavity 18 inches wide and 21 inches deep, the walls of which varied from four to eight inches in thickness. In the same soil half a stick of 20 per cent Red Cross dynamite placed at a depth of three feet produced a cavity 12 inches wide and 15 inches deep, the walls of which varied from two to six inches in thickness. The thickness of the walls and the compactness of the soils composing them produce a jug which is almost impervious to water and through which the roots of plants penetrate with difficulty.

WATER ENTERS AT TOP

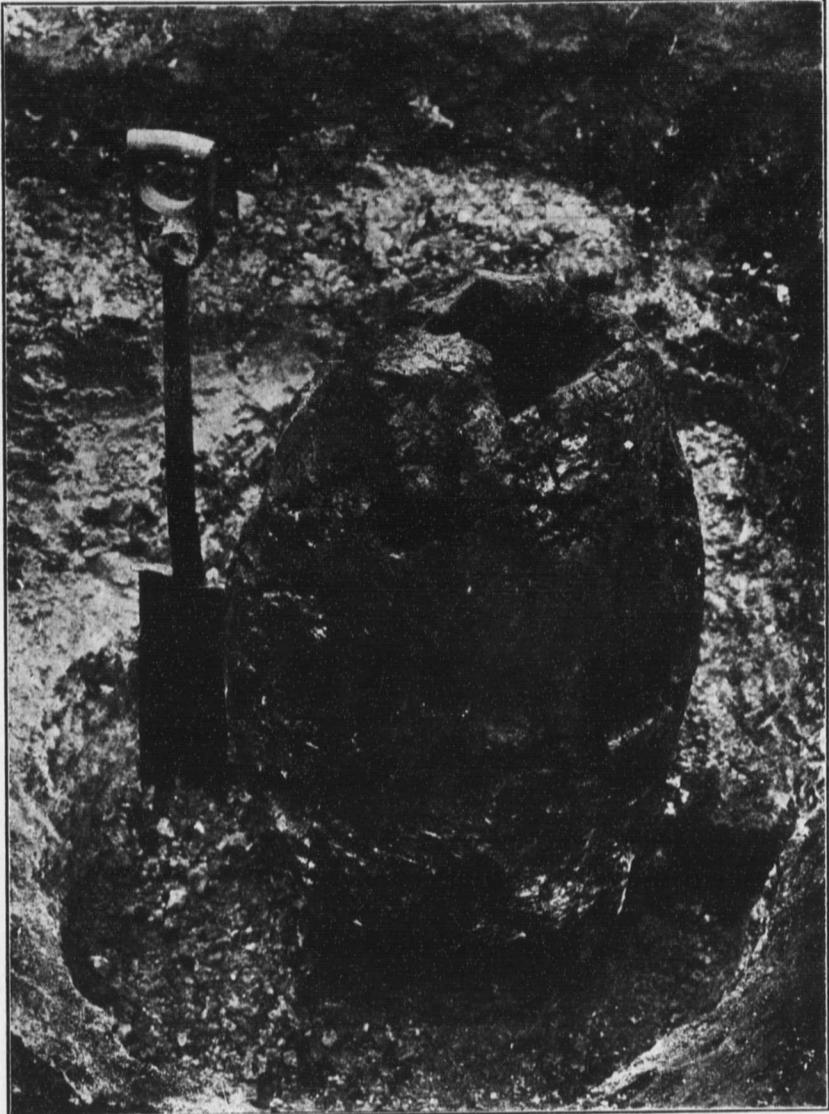
The dynamite jug always contains a small opening or cavity at the top, produced by the gases which escape following the explosion. This cavity furnishes a ready entrance for water, which after heavy rains completely fills the jug. The impervious nature of the jug prevents the percolation of the water. Consequently, each dynamite hole in a heavy clay soil remains filled with water for several days after a heavy rain. This condition causes the drowning out of fruit trees planted in dynamited holes in a soil of this character, and even corn and small grains fail to grow over the dynamited holes the first season after dynamiting, unless the dynamited hole is filled with soil.

In the second season following the dynamiting, corn planted over the dynamited holes made a satisfactory growth, but there was a tendency for the roots to spread less, especially in the surface soil, than is the case with roots of plants growing in a normal soil.

It is evident from the observations, the college experts point out, that dynamiting does not crack and loosen plastic clay subsoils. Instead, the opposite effect is produced. The soil, instead of being shattered and cracked, is compacted and puddled, and the soil left in poorer physical condition than before the dynamiting was done. The area of soil influenced by the charge of dynamite is so small, even when the charges are placed at 10-foot centers, that there is no noticeable effect upon the yield of succeeding crops. If the dynamite charges were placed close enough together so that the jugs produced would occupy practically the entire subsoil, very detrimental results would undoubtedly follow.

MOISTURE AFFECTS RESULT

The moisture content of the soil at the time of dynamiting is a highly



A DYNAMITE JUG IN OSWEGO SILT LOAM SOIL, PRODUCED BY ONE STICK OF 20 PER CENT RED CROSS POWDER PLACED IN THE SOIL AT A DEPTH OF THREE FEET

shown by experiments conducted in Kansas for three years by the agricultural experiment station and reported in a bulletin by L. E. Call, professor of agronomy, and R. I. Throckmorton, assistant professor of soils.

The investigation was conducted for the purpose of ascertaining whether or not there was any foundation for the assertions that dynamiting would improve the physical condition of the soil and aid in aeration, drainage, and bacterial action.

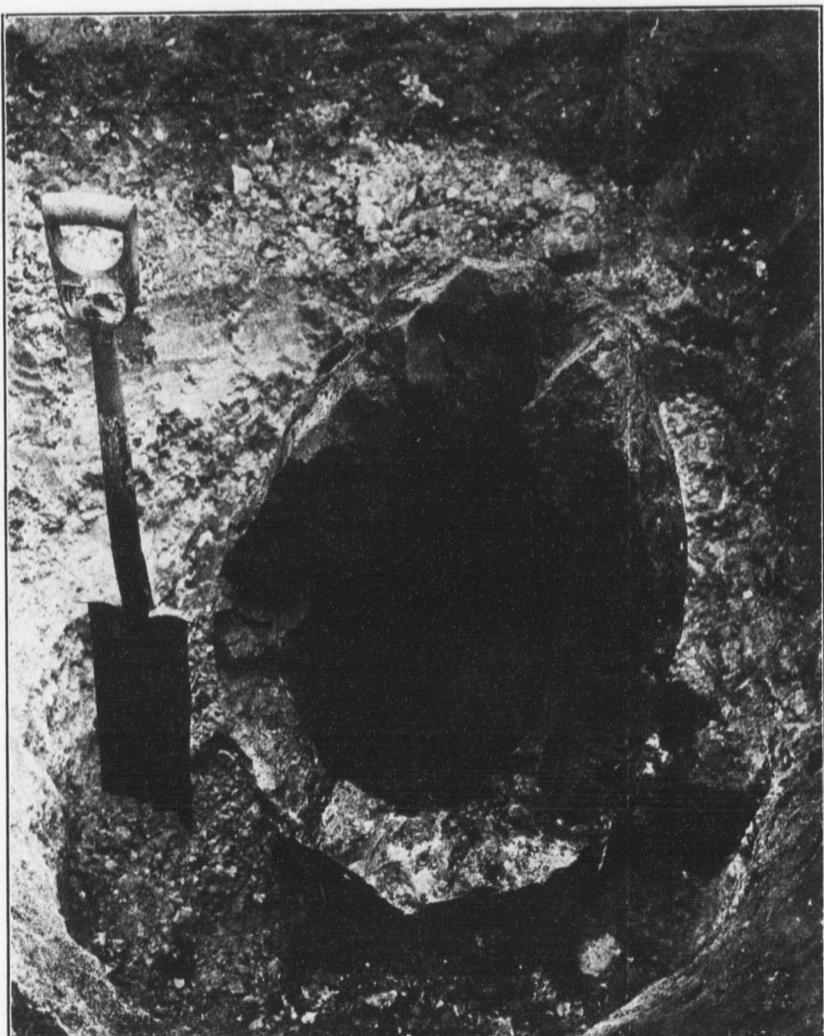
The experiments were conducted at six different places in the state and on soils with heavy clay subsoils. They were planned to determine the effect of dynamiting on soil, the yield of crops, the moisture content of the soil, nitrate development, the bacterial flora, the physical condition of the soil, the leaching of salts in alkali soils, and the growth and vitality of fruit trees.

The data collected showed that the variations in yield between dynamited and undynamited soil were no greater than would occur on two areas of soil similarly treated. The moisture studies proved that dynamiting has no influence on the moisture content of the soil, except in the immediate location of the charge. Nitrate determination showed no greater formation of nitrates on dynamited than on undynamited soil. An alkali soil dynamited in the early spring of 1912 had not been noticeably improved by the fall of 1914. Fruit trees made a slower growth and survived in smaller numbers on dynamited soil than did trees on adjoining undynamited soil. The effect of dynamite on the physical condition of the soil was marked and aided greatly in explaining the results obtained in the investigation.

HOW JUG IS FORMED

When a charge of dynamite is exploded in a plastic clay soil the sudden explosion of the gasses forces the soil back from the center of the charge, producing in the soil a cavity, the size of which is determined partly by the size of charge and composition of the

soil, and with the depth of the charge. In the Oswego silt loam soil one stick of 20 per cent Red Cross dynamite placed at a depth of three



THE JUG PARTLY BROKEN. THE CAVITY IS 18 INCHES WIDE AND 20 INCHES DEEP; THE THICKNESS OF THE WALLS VARIES FROM FOUR TO EIGHT INCHES

of the soil, and with the depth of the charge. In the Oswego silt loam soil one stick of 20 per cent Red Cross dynamite placed at a depth of three

important factor in determining the effect of the dynamite upon the physical condition of the soil. If the ground were reasonably dry it is doubtful if

the dynamite would have any injurious effect—certainly dynamite jugs such as those shown above would not be found.

It is impossible under field conditions to find absolutely dry soil, and it is doubtful if a heavy clay soil could be found under field conditions in a humid climate with such a low moisture content that the soil surrounding the dynamite charge would not be compacted and puddled. It would certainly have been difficult to find the soil under local conditions much drier than it was when the dynamiting shown in the illustrations was done. The total rainfall for nearly six months amounted to only 10.61 inches, and for the six weeks preceding the dynamiting was less than three-quarters of an inch. The field upon which the work was done had grown corn in the summer.

It is the opinion of the authors of the bulletin that heavy plastic clay soils will seldom if ever be found dry enough under field conditions in humid climates to be shattered or cracked by explosions of dynamite, and that the physical condition of such soils will usually be injured rather than benefited by dynamiting.

TRAIN UP YOUNG TREES IN THE WAY THEY SHOULD GO

Greenhouse Overseer Points Out Importance of Early Care—Furnish Protection Against Animals

Importance of training young trees so that they will become straight and well proportioned is emphasized by W. R. Layton, greenhouse overseer at the Kansas State Agricultural college. A growing tree in winter may be bent by the weight of ice or snow, and wind blowing from one direction for several days may produce the same result.

"Trees of rapid growth are less likely to require careful attention than those which take longer to develop," says Mr. Layton. "Oaks, elms, pines, firs, and apples are among those which usually tend away from erect growth. The maple and cottonwood, trees of quick growth, shoot up straight and tall."

Elm and pine seedlings send out at first fine roots which do not penetrate far into the soil. The maple roots, on the other hand, are more vigorous, and give the tree a firm hold in the soil.

The common method of training a tree is first to drive a stake firmly into the ground beside it, and then to place a strap around both tree and stake, says this authority. Animals often injure trees—particularly apple trees. As a protection, a wire netting, 12 to 15 inches high, is used to inclose the base of the tree. A trellis-like frame is also made for the protection and training of small trees in parkings. A young tree which has become crooked may be straightened, but a "kink" will remain.

YES, AND SOME OF IT IS "VERS LIBRE" ALL RIGHT

Woman's Dress Should Give Poetry to Man's Life, Says Domestic Art Specialist—Twill Make Him Eat

The way to a man's heart may be through his stomach, but he will eat more heartily if his food is prepared by a tidy woman, whose dress, thinks Miss Mildred French, instructor in domestic art in the agricultural college, gives the poetry to his life. A tastefully dressed housewife, with neatly combed hair and carefully manicured nails, can satisfy a hungry man with a simple meal while the careless woman fails with her carefully cooked dinner.

"Always look your best," is the advice of Miss French. "Clothes are betrayers of characters. Carelessness, extravagance, and deceit are easily read by the keen observer."

"The home should furnish recreation for a man's life and a woman's dress should give the poetry to his life. A man's romance usually starts when he first sees his lady in a neat, attractive dress. Sometimes it is at a formal party, often at a country husking bee. The least carelessness on her part may end it. Romance means more to a woman than to a man."

GIVE HENS GREEN FOOD

SPRING-LIKE CONDITIONS STIMULATE LAYING IN WINTER

Supply Protein to Take Place of Insects. Advises Professor Lippincott—Birds Should Take Plenty of Exercise—Don't Overfeed

To induce winter egg production, hens should be provided with spring-like conditions, according to W. A. Lippincott, professor of poultry husbandry in the Kansas State Agricultural college.

"Hens stop laying in winter because they miss the warmth, the green food, and the worms and bugs that they get in spring," says Professor Lippincott.

"The important requirements in the care of the fowls in the winter are that they should take sufficient exercise, have succulent food, and be supplied with some form of protein, such as skim milk or beef scraps, to take the place of the insects which they consume in the spring."

HERE'S A GOOD RATION

The ration used in winter feeding on the poultry farm of the Kansas State Agricultural college is a dry mash made according to the following formula: 60 pounds of corn meal, 60 pounds of wheat middlings or shorts, 50 pounds of meat scraps, 30 pounds of wheat bran, 10 pounds of linseed oil meal, 10 pounds of milled alfalfa, and 11 pounds of salt.

This is fed in connection with a scratching feed thrown into the litter and consisting of three parts of wheat, two parts of corn and one part of oats, all by weight. Grit, oyster shell and charcoal are kept before the birds all the time, and they are fed once a day all the green food they will eat clean in half an hour.

ACTIVE HENS ARE LAYERS

If skim milk is fed, the meat scrap in the dry mash is cut one-half. In order to induce the hens to drink enough of the milk, they should be given no water.

"The hen that is last to roost at night and first off in the morning is the one that generally does the laying," says Professor Lippincott. "To make the hens exercise, the scratching feed should be given in a litter of eight to 10 inches of straw. If enough food is thrown in at night so that there will be some in the litter in the morning, the hens will get off the roosts earlier and will keep in better condition.

In using this method one should be careful not to overfeed. If there is still some food in the litter by noon, then the fowls are being fed too much."

RURAL COMMUNITIES PLEASED WITH COLLEGE ART EXHIBIT

Pictures Are Being Shown by County Superintendents—Demand Is Heavy

The Elson art exhibit, which is being shown in the rural communities of the state through the rural service department of the agricultural college, is in great demand. Miss Hattie E. Woods, county superintendent of Anderson county, was the first to handle a circuit for the exhibit, having shown it in a different community each day for three weeks. The pictures are now with Miss May Cain, county superintendent of Johnson county, and it has been necessary to limit her schedule to three weeks—although she could use them to advantage longer—because of the demand for them by teachers whose schools will close by the first of April. They will go from Johnson county to Pratt county, where Miss L. Grace Heaton has a circuit planned taking in all the rural school districts of the county. From there they will be sent to Miss Ruth Mitten of Harvey county.

This collection of pictures contains excellent reproductions of 81 of the world's greatest masterpieces, and is accompanied by a manuscript lecture on "Knowing an Artist and His Work," prepared by Miss Araminta Holman, instructor in home art, and other material explaining the pictures. An admission fee of 10 cents is charged, and the proceeds go to the purchase of pictures for the community in which the exhibit is held.

THE KANSAS INDUSTRIALIST

Volume 42

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Number 19

HELDER TO LEAVE HAYS

SUPERINTENDENT RESIGNS TO ENTER PRIVATE BUSINESS

Has Built Up Branch Station to High Degree of Efficiency and Practical Value to Western Kansas Farmer—Has Interests in Manhattan

George K. Helder, superintendent of the Fort Hays Branch Experiment station, has resigned his position to enter private business. He desires to leave March 1 but will remain until a successor can be secured.

Mr. Helder has been identified with the Fort Hays Branch Experiment station for the past 12 years, or practically since its establishment, first as



GEORGE K. HELDER

bookkeeper, then as assistant superintendent, secretary, and, since January, 1913, as superintendent. He has been instrumental in bringing this 4,000-acre tract of land from undeveloped prairie into an experimental and demonstration farm of the first rank.

The work on the Hays station is divided into nine projects: commercial farming; dry-land investigations; cereal crop investigations; forage crop investigations; state forest nursery; demonstration dairy farm; public park and forestry work; live stock breeding and feeding; tenant farm management.

ROTATION PLAN IS FOLLOWED

The station is being farmed in accordance with a definite rotation scheme, taking into account the proper balancing of labor, the proper proportion of grain and forage crops to grow, and the conservation of soil moisture.

The investigative work has been increased during the past few years, especially in matters having immediate practical value to the western Kansas farmer. These investigations deal with the improvement of forage crops for western Kansas—such crops as Sudan grass, hardy and drought-resistant varieties of sorghums, adapted varieties of corn, and pure seed wheat.

Since its establishment the Fort Hays station has distributed for seed purposes enough improved seed to plant 22,400 acres of kafir, 5,000 acres of milo, 3,300 acres of sweet sorghums, and more than 1,000 bushels of corn and 10,000 bushels of wheat. More than half a million trees have been distributed from the Fort Hays station nursery. The offices of dry-land agriculture, cereal crop investigations, and forage crop investigations, of the United States department of agriculture, are co-operating with the state in investigations under way at the Fort Hays station, and have experts located at the plant.

EMPHASIS ON LIVE STOCK

Pit and upright silos to the capacity of 800 to 1,000 tons have been erected. Feeding trials have been conducted to determine the cost of bringing beef cows and hogs through the winter on

the kinds of feed available in western Kansas, including straw. Since 1913 the number of breeding live stock has been increased from less than 100 head to more than 600 head. Three hundred and twenty acres has been set aside and is being operated independently as a dairy demonstration farm. Thirty high grade Holstein cows have been placed on this farm, which has been equipped with a modern tenant's cottage, barn, and storage room.

The entire plant is now being more intensively, efficiently, and economically farmed than in the previous years of its history. This satisfactory condition has been brought about largely through the efforts of its superintendent, Mr. Helder.

It is understood that Mr. Helder is rather heavily interested in Manhattan property and that he wishes to devote his time for the present, at least, to his own private business interests, and to take a vacation, which he much deserves, not having taken one for eight or ten years.

Mr. Helder is well known and popular in Manhattan. He was for two years a student in the college and was later cashier of the First National bank.

FARM MANAGEMENT WORK PRODUCES GOOD RESULTS

Places Surveyed Last Year Are Now Following Better Business Methods in Agriculture

That the farm management demonstrations conducted by P. E. McNall in co-operation with the county agents are bringing important results is shown by reports to the division of extension of the agricultural college.

Last year a business survey of the farms around Tonganoxie was completed by Mr. McNall and P. H. Ross, county agent. This year a similar survey has been made of 73 farms in the same area, 59 of which were surveyed last year. Of this number, 16 farms have records of their year's business far more complete than those of the previous year.

One of the principles shown in this work is that in order to make good farm profits, the farming business must be of a reasonable size. Too small a farm where general diversified farming is followed is not profitable. Nine of the farms in this area had increased the size of their business by increasing their acreage, as a result of the work last year, and will make a better labor income than with the smaller business.

PARKS WILL SHOW FARMERS HOW TO DESTROY INSECTS

Ohio Man Is Appointed Extension Specialist in Entomology

T. H. Parks of Ashville, Ohio, has been appointed specialist in entomology in the division of extension, Kansas State Agricultural college.

Mr. Parks is a graduate of the college of agriculture of the Ohio State university. He received the degree of bachelor of science in agriculture in 1909. He spent five years in investigations of staple crop insects with the United States department of agriculture, a part of this time being spent at the laboratory of the government entomological laboratory at Wellington, Kan. His studies during the five years took him all over the United States.

In 1913, Mr. Parks became extension entomologist for the University of Idaho, remaining there until May, 1915, when he resigned. In Idaho, Mr. Parks, in addition to his extension work, engaged in research work in orchard spraying, orchard insects, and insects affecting the production of alfalfa and red clover seed. He is the author of many bulletins on staple crop insects and is unusually well prepared to take up this work in Kansas. He will arrive about March 1.

WOULD GIVE CHILD WORK

DOCTOR WATERS OPPOSES EXCESSIVE TIME FOR PLAY

President of College Believes Boys and Girls Are Being Trained Too Much for Lives of Leisure—Strive for Industry, Honesty, Courage

Work as well as play was advocated for the child by Dr. H. J. Waters, president of the college, in an address before the Manhattan Christian brotherhood Tuesday evening.

Doctor Waters pointed out the fact that at no previous period in history had it been possible for one person working a reasonable number of hours to support an entire family. In earlier times, he said, it was necessary for the children of a family to help support it from the time when they were 6 or 7 years of age. The present economic conditions he believes to be temporary.

"In some quarters," said President Waters, "we have come to think of the time outside of school as playtime—in a word, that all we may reasonably expect of children is that they may divide their time between school and play. The child attends school not more than 180 days of six hours each in the year. This leaves a part of every day unoccupied by definite employment and 185 days in which there is nothing definite. Is this not a large proportion of time to be given over to play, especially when we realize that in actual life work, not play, will be the average man's or woman's biggest job? We are training children for lives of leisure, which very few of them will be able to follow."

PLAY SHOULD BE ORGANIZED

"Obviously, if all this time is to be given over to play or even as much as half this time, the child should get something out of it other than recreation. If it is profitable to supervise a child's activities and to organize its efforts for less than half its time while in school, it is not worth while to supervise its playtime and organize its play action?"

President Waters compared the history of the United States to the career of a man who had had an apparently highly profitable life but who had actually drawn upon and reduced his capital. He declared that at the present time the opportunity for a child to change his station in life was much less than existed 75 years ago.

"A boy or girl born in poverty but with exceptional ability may still become rich and famous and a boy or girl born to wealth will still have the opportunity to become worthless and infamous," said Doctor Waters, "but in general, the lines will be more closely drawn than in the past."

The speaker urged that every child be prepared to do definite work in the world. While opposing what is commonly known as child labor, he advocated tasks which would develop industry, honesty, and courage.

TO DISCUSS LIVE STOCK FOR SOUTHEAST KANSAS

Big Attendance Is Expected at Parsons Conference—College Men Will Make Addresses

The Southeast Kansas Live Stock conference to be held at Parsons Wednesday and Thursday has been arranged through the co-operation of the live stock men of southeastern Kansas, the Parsons Chamber of Commerce, and the Kansas State Agricultural college. An attendance of more than 600 persons is expected.

An executive committee composed of the following men met at Coffeyville to plan the program: J. H. Keith, Coffeyville; H. M. Hill, Lafontaine; L. S. Edwards, Oswego; E. S. Meyers, Chanute; H. I. Gaddis, McCune; William O'Bryan, St. Paul; H. B. Mus-

ser, Parsons; and C. G. Elling, district agricultural agent, Parsons.

A large tent will be provided by the Parsons Chamber of Commerce, in which exhibits of live stock owned by breeders in southeast Kansas will be made and in which the judging and demonstration work will be conducted. The agricultural college will furnish a car load of demonstration stock—horses, beef cattle, hogs, and sheep—for use in the class work. Demonstration dairy cattle and additional demonstration beef cattle, horses, and hogs will be provided locally. The Missouri, Kansas, and Texas railway will help in the transportation of some of the stock.

Speakers from the agricultural college will include W. A. Cochel, professor of animal husbandry; E. N.

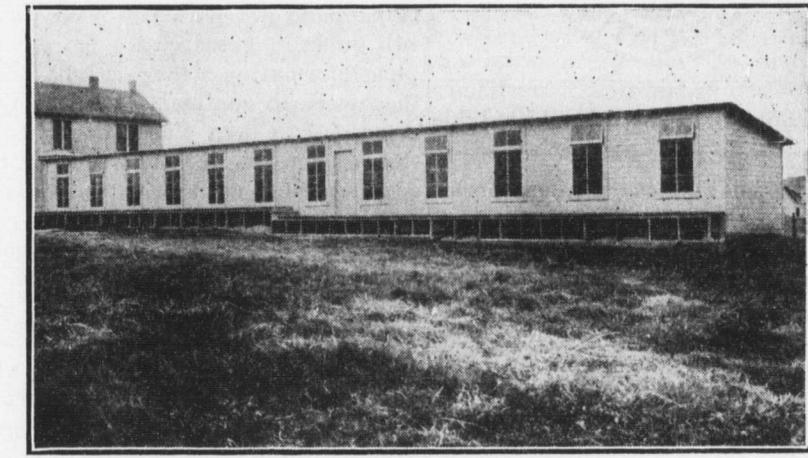
HOW TO REAR CHICKS

PRACTICAL INSTRUCTION TO BE GIVEN IN NEW LABORATORY

Building Contains Brooding Pen, Feed House, and Experimental Department—Careful Tests Will Be Made in Poultry Husbandry

A new laboratory for giving practical instruction in brooding and rearing chicks as well as carrying on poultry experiments has just been completed at the Kansas State Agricultural college.

The building is 96 feet long and 14 feet wide. It is divided into three parts—the brooding pen, the feed house, and the experimental department. Each brooder pen is 11 feet



NEW BROODING LABORATORY

Wentworth, professor of animal breeding; Edward C. Johnson, dean of the division of extension; W. M. Jardine, dean of the division of agriculture; and O. E. Reed, professor of dairy husbandry.

ART EXHIBIT AT COLLEGE BRINGS BIG ATTENDANCE

Many Students Report on Pictures for Classes in English, Art, and History—Lectures Are Given

The attendance at the exhibit of the American Federation of Arts in the home economics hall February 4 to 18 was 2,500, exclusive of "repeaters."

Some students studied the pictures voluntarily, others went to report on them for history, English, and art classes. There were more than 150 paid admissions. Ten high school classes attended.

"Of course, this was only a beginning, but the attendance, and the interest shown in this exhibit, which we hope to make an annual event, were gratifying," commented Miss Araminta Holman, instructor in home art.

Lectures on the pictures were given each afternoon and evening. Those who spoke were Miss Holman, Miss Grace Averill, Miss Florence Hunt, Miss Jessie Reynolds, Mrs. W. E. Menoher, Miss Gladys Bate, S. A. Smith, and F. C. Harris.

The American federation of art was organized to encourage the development of art and its appreciation in America. There will probably be a chapter of the federation in the college next year.

The exhibit of Kansas paintings which was shown was assembled by W. A. Griffith, professor of drawing and painting in the University of Kansas.

GLENN LINCK, STUDENT, SUCCUMBS TO PNEUMONIA

Was Taking Mechanic Arts Course in School of Agriculture

Glenn Linck of Emporia, a second-year student in mechanic arts in the school of agriculture, died of pneumonia Thursday afternoon at the Charlotte Swift hospital. The body was taken to Emporia, where the funeral will take place.

Mr. Linck was the only son of his parents, and was a young man of unusual ability.

long and 4 feet wide, having a front yard 4 feet by 30 feet.

Accommodations are such that 12 students can work in the house. Each will be responsible for 50 chicks. Experiments in feeding will be conducted which will be of value to the students.

VISITORS MAY WATCH TESTS

The plant is well lighted and well ventilated, and has all the conveniences for effective work. The building will be closed to visitors so that there will be no chance to tamper with the chicks. Arrangements have been made, however, so that visitors can watch experiments from outside. There is a platform walk for this purpose.

In the feed room the students will prepare the feeds for the respective pens. They will mix the grains according to directions given.

The east room will be used entirely for college experimental purposes. The work will be carried on under the direction of N. L. Harris, superintendent of the poultry farm. The brooders in this compartment are heated with gasoline.

WILL HATCH 2,500 CHICKS

This year the department will hatch 2,500 chicks. Mr. Harris alone will handle 1,000 chicks. Aside from this, the department buys many chickens from outside for laboratory purposes.

Experiments in breeding, feeding, mortality, rate of growth, earliness of maturity, caponizing, and killing and dressing will be conducted. The men who specialize in poultry husbandry will have practice with several kinds of brooders.

Some of the chicks are selected for egg production. Many of them are from hens of high egg capacity, and all the chicks brooded are from pedigree stock. The hens are trap-nested and each egg is labeled with the number of the leg band of the hen. Then each egg is put into a sack of mosquito netting so that the chicks may be identified with the number on the shell when it is hatched.

After the chickens are hatched they are banded with the pigeon bands. The numbers are used in weighing and keeping records. Later these pigeon bands are fastened in the wings where they remain throughout the life of the birds. As soon as the birds are matured, larger bands are put on their legs to make the reading of the numbers easier.

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J. D. WALTERS.....Local Editor

Except for contributions from officers of the college and members of the faculty, the articles in THE KANSAS INDUSTRIALIST are written by students in the department of industrial journalism. The mechanical work is done by the department of printing. Of these departments Prof. N. A. Crawford is head.

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SATURDAY, FEBRUARY 19, 1916

An Emporia house cleaner broke his finger in helping move a telephone pole. That's what happens when a man deserts his legitimate occupation.

If, as people say, humorists' lives are sad in proportion to the keenness of their humor, the autobiography of Charlie Chaplin ought to be a roaring comedy.

The University of Maine announces the translation of a Greek work into Chinese, which might perhaps be added to the growing list of light occupations.

DON'T OVERLOOK THIS CHANCE!
Two thousand dollars from poultry! There is a promising opening for advertisers of poultry books, incubators, and schemes to get rich quick by keeping a few chickens.

According to a recent news dispatch, Frank Weix, a Wisconsin farmer, made big money because he caught a chicken thief—a black fox worth \$2,000—plying his trade. The capture was made single handed, by the simple process of closing the door of his henhouse, which the wind had blown open.

"Two thousand dollars in one day from chickens! I made it myself. References furnished." There's a big opportunity for you, Mr. Weix, if you care to take advantage of the gullible public to make a few thousand more.

CARTOONIST VS. STAGE DIRECTOR
The newspaper cartoonist is to journalism what author, stage director, and producer, combined, are to literature as a whole. Cartoons are the journalized form of the drama. In cartoons, as in the drama, the artist makes his miniature figures perform actions and speak words at his will.

The cartoonists have some advantages over their brothers on the stage.

No temperamental star ever drives them to distraction. No added people, scenery, or "props," cause an increase in the expense. So long as there is room in the paper for them, the cartoonist adds to his cast at will.

On the other hand, however, he has all the responsibilities and worries of all the officials of the play, box office included. It is up to him and him alone to make the play go, and if he fails, he is the only one who loses, unless he has been wise enough to syndicate his stuff with a stiff payment in advance. And to do that, one must be a very Belasco of cartoonists.

WHY TAKE A CHANCE?
Test your seed.
Test your seed corn, but don't stop with that. Test your kafir, milo, alfalfa. Test all the seed that you are going to plant.

The farmer or gardener who doesn't test his seed is like the man who collects a bill of \$5,000 in cash and doesn't count the money. He is like the engi-

neer who runs his train across a bridge that looks dangerous and that he knows has not been inspected since the water rose. The \$5,000 may be all there and the train may get across the bridge, all right. But would you take the chance?

Likewise the seed may all grow. But the seed is really much less likely to grow than the money to be all there or the train to get across the track. Figure it out on the basis of probabilities and you'll see. If you wouldn't take a chance on the money or the train, why on your crops?

Test your seed. Do it now.

KEY TO ANCIENT MEXICO

The identification of a small stone statuette from Vera Cruz, Mex., which has been in the possession of the United States National museum since 1902, as the oldest known dated antique in America, may lead to a means of clearing up the history of ancient Mexico, as the Rosetta stone furnished the key to deciphering the hieroglyphics of ancient Egypt.

The statuette itself may enable scholars to read inscriptions on the ancient ruins found in Peru and Mexico, which will guide in a search for more complete information of the race inhabiting the American continent centuries ago. America has been placed in the position of Europe and Asia during the centuries when no information was obtainable of the mystery of the pyramids and other works of the ancients.

The practically entire absence of knowledge of the great ruins in Mexico has left the impression that they were built by half-civilized tribes who had nothing of importance to record and whose only claim to any recognition lay in the ruins themselves as being the best evidence of ability. But the imagination can picture a race of people well advanced in the scale of civilization.

Difference in climate has much to do in the preservation of the work of man. The climate of northern Africa is of such a kind that the elements have little destroying influence. The dry atmosphere has preserved inscriptions on monuments in Egypt which would have become totally obliterated in the climate of Mexico, Central America, and South America. In fact, when Cleopatra's needle was brought to New York it was found necessary to coat it immediately with a material impervious to the action of wind, rain, or snow.

In tropical America dense forests could cover the site of a populous city in a few years. In the course of hundreds or thousands of centuries the deposit of leaves and decayed vegetation could change even the contour of the surface. Heavy rains would wash down hills and fill up gullies. In this way many traces of a high state of civilization would disappear and enduring forms of structure would be effaced. There may yet remain to be found on the American continent proof of races which surpass any that have occupied history study in the old world. One of the greatest mysteries to be unraveled is that of the copper workers in the Lake Superior mines.—Milwaukee News.

VALUABLE KITCHEN ARTICLE

No kitchen utensil will be found more useful than a good pair of steel scissors. They will save many cut fingers and much time. A medium-sized pair with good cutting point will answer every purpose.

There are many processes in the preparation of food that are often difficult to perform with a knife and yet can be done easily and quickly with a pair of good, sharp scissors. Take, for instance, the disjointing of a fowl—there is nothing like a pair of sharp scissors for severing the joints. It is done quickly, neatly, and easily and without splintering any bones in the process.

Scissors are ideal for cutting celery, parsley, cabbage, carrots, etc., for soups and salads.

In the spring they will cut the young, tender stalks of rhubarb into cubes without removing the skins. It gives a pretty color to the sauce, and the fla-

vor is much finer when the skins are left on.

It is much easier to cut marshmallows with scissors than with a knife. The same is true of citron, lemon, and orange peel.

Scissors are most useful in the preparation of grape fruit, as the tough parts can be clipped out so easily. Large bunches of grapes and raisins can be readily divided into the right portions with scissors and are not

county attorney of Payne county, Okla., on the Republican ticket.

The farm has on exhibition a very fine Berkshire boar purchased by exchange from Judge Sutton of Russell.

Fifty or more students plan to take advantage of the excursion on February 27 to visit Fort Riley.

Argand burners take the place of the old footlights on the chapel stage,

CONCORD HYMN

Ralph Waldo Emerson

By a rude bridge that arched the flood,
Their flag to April's breeze unfurled,
Here once the embattled farmers stood,
And fired the shot heard round the world.

The foe long since in silence slept,
Alike the conqueror silent sleeps,
And Time the ruined bridge has swept
Down the dark stream which seaward creeps.

On this green bank, by this soft stream,
We set today a votive stone,
That memory may their deed redeem
When, like our sires, our sons are gone.

Spirit, that made those heroes dare
To die, or leave their children free,
Bid Time and Nature gently spare
The shaft we raise to them and Thee.

SUNFLOWERS

More men than women go insane.
No wonder!

If Father Washington could only see us now.

Fashions this spring will be different, as usual.

Easter will come this year just three days after your wife gets her new spring suit.

There are 5,408 benevolent institutions in the United States, not including John D. and Carnegie. The number of benevolent human beings is inconsiderable.

We are inclined to believe there is something in the suggestion that woman's dress is the poetry of man's existence in the home. At least it takes all the jingle out of his pockets.

TO GERTRUDE DIMMING HER NOSE
When Gertrude puts the powder on

Her rosy nose,
She touches each cheek lightly, as
You might suppose;

She gives her chin a dainty daub—
'Twill vex her foes:

Thus Gertrude on her glowing beak
The dimmer throws.

IN THE WILDS OF EMPORY

Pepville's coyote howled again last night, and today there is talk of a wolf hunt, dogs, boys and rifles barred. The coyote is camping between Pepville and the College dairy, and his yapping makes the nights sleepless for Pepville people and dogs. Many residents of Pepville have been puzzled by the strange noise. James Weaver, a Pepville resident, qualified as a wild animal expert this morning when he said he had heard the strange noise, but thought it was from a flock of geese.—Emporia Gazette.

THE KANSAS CATTLEMEN

The cattlemen who met in Wichita this week were a live lot of fellows. Anyone who thinks that such a convention brings in a lot of cowboys who are out for a "time" is badly mistaken. Many of those who attended are not even stock raisers, unless we include bank stock, mining stock, or the like, but they recognize the importance of the live stock industry to them as well as to the men who raise the horses, cattle, hogs, and sheep. Those at the convention had a good time, but they were here for business and the meetings were of interest and profit to every one who attended.—Wichita Eagle.

SUDAN GRASS

Sudan grass will have an important place in the agriculture of western Kansas. In the 11 counties under the supervision of the district agent more than 2,000 farmers grew the crop in 1915. It is estimated that in Ford county 400 farmers grew this sorghum last year. Many of these farmers are growing only a small field for the purpose of trying it out. In most instances the fields were planted in rows and the crop was harvested for seed. However, there were many small fields where the crop was tried for hay purposes.—Lee H. Gould in the Farmers Mail and Breeze.

A QUARTER CENTURY AGO

Items from The Industrialist of February 21, 1891

Janitor McCreary is again at his post with better health than he has known for six months past.

Professor Brown is practicing with a new camera which he recently purchased to present to his sons.

F. A. Hutto, '85, has been elected

torn or bruised as when a knife is used.

They are handy to cut shelf paper, covers for jelly glasses and butter jars, to cut up molasses candy, or to cut fruit off vines.

These are only a few of the services which the scissors will perform daily for the housewife. But they must receive the very best of care if they are to do their work well. They must be carefully cleaned and washed—and scoured occasionally, and thoroughly dried after each time they are used. When hung up let them be open. They should never be allowed to get rusty.—Farmer and Stockman.

Some tears have been shed the past week over failures in study. Too many cares account for some of these, and too many pleasures for others.

Professor Walters has accepted an invitation to address the College Hill alliance on March 6. The professor will lecture on the topic, "Farm Life vs. Business Life."

An ice storm loaded trees and shrubs to breaking on Thursday, and in the sunshine of yesterday made dazzling landscapes of surpassing brilliancy. The opinion is expressed that the ice mantle did not damage the fruit buds.

AMONG THE ALUMNI

John Parsons, '15, of Kansas City is in the city to attend the oratorical contest.

Gerald Fitzgerald, '15, of Colby spent the week end at the Sigma Phi Delta house.

Miss Elsie Hellwig, '15, of Oswego, a former Ionian, arrived Friday to attend the oratorical contest.

H. W. Stockebrand, '15, is teaching in Central City, Nebr. He writes that he expects to be in school here during the spring term and summer school.

G. D. M. Jones, '14, has quit farming near Garden City to go into the fuel business in Kansas City, Mo. His office is 318 Scarritt building.

Miss Katherine Adams, '14, left Sunday for Ellsworth, where she will teach home economics in place of Miss Margaret Ann Blanchard, '14, who resigned on account of ill health.

J. D. McCallum, '14, is teaching in the Lawrence high school. He is doing work among the rural communities of Douglas county for boys' and girls' clubs and consolidated school districts.

David G. Robertson, '86, who is practicing law in Chicago, has been elected to the council of the city of Evanston. He writes here for a graduate to take up the work of landscape gardener for the city of Evanston. He still loves "old K. S. A. C." after all these years.

C. F. Turner, '12, is now entomological assistant in the experiment station at Hagerstown, Md., but will return in April to his permanent headquarters in Greenwood, Miss. He writes that he recently met several college people, among them W. B. Wood, '10, and Mr. and Mrs. Curtis Kyle, '03.

Martin W. Souders, '14, will receive his degree in physical education from the Springfield (Mass.) college in June. In his summer vacations he has been conducting ground work and in the winter he has been coaching basketball in Springfield and surrounding towns. While in school here, Mr. Souders was captain of the Aggie basketball team and played center on that team.

Archie L. Marble, '15, is coach and director of athletics in the Wenatchee (Wash.) high school. He has been highly successful in his coaching work. His teams have played some of the best teams on the coast. While in school here Mr. Marble played on the Aggie football team and was a member of the track team. His work on the track was putting the shot. He was also a member of Webster Literary society.

James M. McArthur, '15, who is teaching in the State Normal school at Minot, N. D., writes that he has been invited by the department of agriculture at Washington, D. C., to take part in the discussion in secondary agricultural education in a meeting to be held at Lafayette, Ind., February 18 and 19. Mr. McArthur was a member of the Alpha Beta society here and was one of the members of the inter-collegiate debating squad.

DEATHS

ALETHA BRADY WOLFE

Miss Aletha Brady Wolfe, for two years a student in the Kansas State Agricultural college, died at the University hospital, Kansas City, January 27, at the age of 23 years.

Miss Wolfe was a graduate of the commercial department of Baker university before coming to the agricultural college. She was an excellent student here. At the time of her death she was studying nursing in the University hospital and would have received her diploma this year, after which she planned graduate study in Boston. She was a member of the Methodist church, in which she was an active worker.

She is survived by her father and mother, Mr. and Mrs. J. C. Wolfe of Monticello, three sisters, Mrs. Clarence Lee of Oklahoma City, Okla., Mrs. Frank Scherman of Topeka, and Mrs. Horace Walkenhorst of Kansas City, Mo., and a brother, R. H. Wolfe of Monticello.

GRAHAM WAS THERE

To the Editor of THE INDUSTRIALIST:

The last issue of THE INDUSTRIALIST contains a notice of a meeting of alumni and former students held here in Portland.

The center and life of this gathering was Prof. I. D. Graham, for sixteen years secretary of the Kansas State Agricultural college and at present editor of the Rural Spirit, the live stock journal for the Pacific northwest. Through an oversight, in the list Professor Graham's name was left out. This was like Hamlet with Hamlet left out.

H. W. STONE, '92.

Portland, Ore.

WASHINGTON REUNION

The Washington branch of the Kansas State Agricultural College Alumni association gathered in its annual reunion at the Raleigh hotel, Washington, D. C., January 29. No more thoroughly delightful and entertaining reunion of a completely informal nature could have been experienced. In renewing memories of college days and relating experiences of after-college life, the guests became as the members of one family. Everyone entered thoroughly and heartily into the pleasures of the evening. A telegram of greeting from the Chicago alumni brought forth a rousing college yell. All joined in singing "Alma Mater" as the reunion closed.

Those present were Mr. Roland McKee, '00, president, Mr. Lewis W. Call, '83, and Mrs. Call, Mr. J. H. Criswell, '89, Mr. S. C. Mason, '90, and Mrs. Mason, Miss Julia Pearce, '90, Mr. C. P. Hartley, '92, and Mrs. Hartley, Mrs. Isabella (Frisbie) Criswell, '94, Mr. O. H. Halstead, '95; Mr. C. F. Doane, '96, Mr. J. B. S. Norton, '96, and Mrs. Norton, Mrs. Margaret (Carleton) Doane, '96, Mr. R. W. Clothier, '97, and Mrs. Clothier, Mrs. Gertrude (Lyman) Hall, '97, Mr. W. L. Hall, '98, Mr. J. F. Ross, '02, Mr. A. B. Gahan, '03, and Mrs. Gahan, Mr. Jesse Jones, '03, and Mrs. Jones, Mr. H. A. Spillman, '03, Mr. C. H. Kyle, '03, and Mrs. Corinne (Failyer) Kyle, '03, Mr. R. A. Oakley, '03, and Mrs. Oakley, Mr. Nicholas Schmitz, '04, and Mrs. Schmitz, Mr. H. N. Vinall, '03, Mrs. Mamie (Helder) Hallsted, '04, Mr. H. V. Harlan, '04, and Mrs. Augusta (Griffing) Harlan, '04, Mr. C. H. Popeno, '05, Mr. W. R. Ballard, '05, Mr. H. R. Reed, '07, Miss Lois Failyer, '07, Mr. Elmer Johnson, '08, Mr. A. B. Cron, '08, Mr. L. C. Aicher, '10, Mr. V. H. Florell, '11, and Mrs. Florell, Mr. E. H. Kellogg, '11, Mr. W. M. Osborn, '11, Mr. Owen Williams, '11, Mr. Harlan D. Smith, '11, Mr. W. E. Comfort, '14, Mr. D. E. Lantz and Mrs. Lantz, Mr. J. F. Strauss and Mrs. Strauss, Miss Mamie Seele.

PRACTICAL HOME ECONOMICS

Miss Etta V. Sherwood, '12, who is teaching domestic science and art in the Cawker City high school, is carrying on highly practical work. This is her second year at Cawker City. Besides her domestic science and art work she is teaching several other subjects.

A new two-story manual training and domestic science building has just been completed there. Miss Sherwood has three rooms devoted to her work. One is a dining room, one a kitchen, and one a sewing laboratory. Twenty-six girls are enrolled in the domestic science work, and 20 in the domestic art work. The work is given only in the junior and the senior high school.

The girls of the domestic science department get practical work in dinner and lunch serving. They recently served dinner to the county teachers' association. They regularly serve noon luncheons to the students who attend the school from the country.

Cawker City has a population of 850, and an enrollment in junior and senior high school of 270.

DON'T LET SOIL DRIFT

COLLEGE WARNS AGAINST DANGER IN WESTERN KANSAS

Blowing Particles Often Cause Heavy Damage to Wheat—Injury May Be Largely Prevented by Prompt Action, Says C. C. Cunningham

Don't take a chance on losing your wheat crop by allowing the soil to blow. Take preventive steps.

This is the advice given to the western Kansas farmer by C. C. Cunningham, assistant in co-operative crop experiments in the Kansas State Agricultural college.

"Drifting soil often destroys large acreages of wheat in western Kansas," says Mr. Cunningham. "The extent of the loss varies with the season, depending on the force of the winds, the growth of the wheat, and the condition of the soil. In 1914, because of abnormal seasonal conditions, little if any blowing occurred."

"The usual spring winds probably will prevail this year, however, and considerable soil drifting may take place. Much of the wheat was seeded late and therefore did not make sufficient growth to protect the soil. Of course, wheat that was 'stubbed in' or seeded in disked wheat stubble is not likely to blow because of the heavy growth of straw on the ground. The soil on plowed wheat ground probably will be in a condition to blow readily, especially if the alternate freezing and thawing leaves it in a finely pulverized condition.

"The loss of wheat from the blowing of the soil can be controlled to a great extent if properly attended to. Preventive measures are the most effective and practical. It is sometimes difficult to stop the blowing after it once starts, especially where the acreages are large.

HOW WHEAT IS DAMAGED

"Wheat is damaged by blowing only when the soil particles obtain sufficient speed or momentum to cut or injure the plants or where the drifting is sufficient either to expose the wheat roots or to bury the plants. Losses from the latter causes are slight compared with those due to injury to the plants from drifting soil particles. This damage occurs only when the particles are blown a considerable distance over a surface that is free from obstructions. Often fields of wheat are destroyed except a strip a few rods wide along the edge adjoined by sod or other land that does not blow."

"Considerable soil from the undamaged area may blow on to the damaged portion of the field, but the soil particles do not obtain sufficient momentum to cut or injure the wheat until they have blown some distance. The control of blowing consists in preventing the soil particles drifting far enough to obtain much momentum."

"The most effective and also the most practical method to control blowing when it is about to start or has begun is to list one or two furrows at intervals of three or four rods. The listing should be done east and west, as most of the winds that start the blowing of the soil are from the north or the southwest. Land can be got over very rapidly in this way. The lister furrows may be leveled with a disk lister cultivator after the wheat has made sufficient growth to protect the soil."

PACKER DOES GOOD WORK

"The proper use of the sub-surface packer will considerably decrease the chances of blowing. The packer should be heavily weighted and the field gone over in an east and west direction. The packer wheels leave the soil in a ridged and furrowed condition, which under ordinary conditions prevents the soil particles from obtaining a start in that they do not move more than four or five inches without falling into a packer wheel furrow. Strong winds long continued may finally cause the furrows to become filled and blowing may take place regardless of the effort to control it. A disk set straight and weighted can sometimes be used to advantage, but it may damage some wheat and is not a satisfactory implement. Where is

the ground is loose, the use of the packer may be beneficial in firming soil."

"The harrow is sometimes used to stop blowing, but the use of this implement is always more or less dangerous. When the ground is lightly crusted and blowing is beginning, the harrow may be used to advantage, especially if the lower portion of the crust is moist and considerable wet soil is mixed with the dry surface soil."

GIVES TEMPORARY ADVANTAGE

"A light rain following the harrowing, however, may destroy the benefits derived, in which case the soil may be in worse condition than before. When the soil is dry and loose the harrow is likely to increase rather than decrease the danger of blowing. At best only temporary results can be obtained with the harrow."

"Soil drifting can easily be prevented by spreading straw thinly over the fields. This operation requires considerable time and is not suitable when quick work is necessary. The spreading of straw is a preventive measure and the material should be applied in late fall and winter when there is no other work to do."

"The efficiency of the straw can be greatly increased by pressing it into the soil with a sub-surface packer or a disk set straight. The former implement is far more efficient, but the disk may be used if a packer is not available. If the straw available is not sufficient to cover the entire acreage of wheat, it may be spread in strips two or three rods wide running east and west and laid at frequent intervals."

BETTER FARMING WINS, WATERS TELLS STUDENTS

President Talks to Short Course Men About Upbuilding Rural Communities of Kansas

Better farming will win. This fact was urged upon the short course students Wednesday by Dr. H. J. Waters, president of the college. He discussed briefly the characteristics that would mark the successful farmers and up-builders of rural communities in the future.

"Every graduate of the short course, as well as every graduate of the long course of the agricultural college who returns to the farm, is marked," said Doctor Waters.

"Don't expect to reconstruct farm operations too rapidly. Be conservative, at the same time persistent and determined, in your progress. People naturally think in terms of concrete examples and not in terms of averages. Hence it is not uncommon to find that, under certain peculiar conditions, wholly reliable advice given on the basis of the average, may result disastrously. Its exponent is then gloriously denounced. Be cautious, but be not discouraged by an occasional exception to a rule. Better farming will win. Be a student always. Keep in close touch with the agricultural college."

"Don't be afraid to work. Calloused hands do not lower a man's standing in society in any respect. A leader is able, through frankness, sincerity, and capability, to advance, and to take the crowd with him. He doesn't say much about leading, but if he is a clear thinker and if his propositions are right, his influence in a community will steadily increase."

Doctor Waters reminded the students that the results a man is able to accomplish are dependent on two factors—native ability and work. These factors may be likened to the multiplicand and multiplier in a problem in multiplication. If the native ability and the work are both small, the product may be almost insignificant. If the native ability is medium and the work large, the product may be greater than that of another individual with much greater native ability but with smaller capacity for work.

The Creator, Doctor Waters pointed out, has given the native ability, and that factor cannot be changed much. But the determination of the size of the other factor—thoughtful, persistent and effective work—lies very much within the control of the individual.

USE FANS IN WINTER

THEY'RE NOT FOR HOT SEASON ALONE, SAYS MISS KENNEDY

Breezes Are What Make Seashore and Mountains Healthful Places—Keep Windows Open and Keep Air Circulating in Rooms

The use of the electric fan in winter as well as summer to create health resort conditions is advocated by Miss Loula Kennedy, instructor in home economics in the Kansas State Agricultural college. The special value of going to the seashore or the mountains is the constant activity of the breezes in those places, she points out. If it is impossible to go to a resort and the air in the house is sluggish, use an electric fan.

"The natural ventilators, of course," says Miss Kennedy, "are all outdoor openings. Aids to natural circulation are open fireplaces, window ventilators, and other mechanical devices which may be purchased. Opening windows at the top and bottom is the best and simplest means of ventilation. It is the most economical in the end although it may mean the consumption of more fuel in the winter. Window ventilation allows for an abundant circulation of fresh air, which is needed in order to keep the air in the room in constant motion."

AIR GETS OVERHEATED

"Good ventilation of the home means the constant change of air in the inclosed space. Poor ventilation does not necessarily mean too much carbon dioxide in the air, as was the old idea. The discomfort felt by bad air in a room is due to physical changes and overheating rather than to an excess of carbon dioxide. The proper temperature, the right amount of moisture, and constant motion of the air are the necessary requisites of good ventilation. This does not mean that there should be drafts in a room."

Indoor air is stagnant and contains dust, escaping odors from clothes, the body, and unsealed sewer traps. The important principle of ventilation is to bring fresh air in from without in order to dilute this foul air and remove the products of respiration and combustion. The outdoor air carries away body heat, results in beneficial stimulation of the skin, increases resistance to disease, and gives a feeling of general well-being.

Ventilation may be aided by the removal of heavy carpets and upholstered furniture in the home. Floors and walls should permit of easy cleaning and be non-absorbent. Electric lights do not yield products of combustion as do gas and kerosene lamps. The size and the shape of the room are important in any system of ventilation, but to allow a certain number of cubic feet of air to each person is useless unless that air is kept in constant motion. Tuberculosis, and all respiratory diseases, anemia and nervousness may be cured or alleviated by a generous supply of fresh air.

FARMER SHOULD USE CARE IN PASTURING HIS WHEAT

If it Has Made Little Growth or if Ground is Soft it Should Be Let Alone

Kansas farmers are warned against pasturing wheat that has made little growth or any wheat on ground that is wet and soft.

"If a farmer is short of feed and the wheat has made a good growth, it may be pastured," says S. C. Salmon, associate professor of farm crops in the Kansas State Agricultural college. "Under no circumstances, however, should late sown wheat be pastured, and wheat should never be pastured too close nor too late in the spring. Take all stock off the fields when spring opens up. Conditions should suggest just how much pasturing should be done."

Contrary to the opinion of some farmers, pasturing does not kill the Hessian fly. Other methods must be used in the eradication of that pest.

TAKE PLACE OF SERVANT

MODERN KITCHEN APPLIANCES MEAN MUCH TO FARM HOUSEWIFE

Water Should Be Piped in, and Up-to-Date Power Equipment for Laundry Work Installed—Arrange Furniture for Convenient Use

Wives of Kansas farmers need not worry because of inability to obtain kitchen help. Up-to-date equipment that will take the place of a helper may be purchased at comparatively low cost, points out Miss Stella Mather, lecturer on home economics in the division of extension, Kansas State Agricultural college.

"Of all labor saving devices, water piped into the kitchen is most important," says Miss Mather. "Although not everyone can afford an expensive water system with bathroom equipment there are devices for bringing water into the kitchen and providing for its disposal, that can be installed at small cost. No woman should be expected to do the housework without this convenience."

DISCARD OLD FASHIONED IRON

"Next to carrying water in and out of the house, the hardest work for the housewife is keeping the family supplied with fresh, clean clothes. For this purpose she needs every modern improvement in laundry equipment. With the power washer now on the market she should have one operated by a gasoline engine or by electricity. The electric iron or the gasoline or alcohol iron where available should take the place of the old fashioned iron, which necessitates many steps and much heat while doing the ironing."

In the kitchen the housewife should have her furniture so arranged that work may be done with as few steps as possible, suggests Miss Mather. Her table should be of such height that she may work at it standing erect and not with stooped shoulders. The sink should be of the same height as the table.

AS CHEAP TO SIT AS STAND

There should be a high stool in the kitchen. It is just as cheap to sit as to stand. The housewife may do a large part of her work, such as washing dishes and paring vegetables, without standing. A small rocking chair may be used to advantage in the kitchen when it is necessary for the housewife to remain there watching something in the oven or on the stove.

The bread mixer, as well as the cake mixer, is regarded by many housewives as invaluable. The farm wife finds the fireless cooker a convenience. Her meals are ready to serve when she returns from church on Sunday or from town on the day she does the marketing.

HAVE TRAY ON WHEELS

No housewife can afford to get along without the tray on wheels. This can be purchased for a reasonable price or can be made from a small bedroom table or an old worn out baby buggy. When she is setting the table, serving the meal, and washing the dishes as well as performing many other household tasks, this step-saving device is almost indispensable.

Miss Mather emphasizes the need of the food chopper, the cream whipper, and the mayonnaise mixer in lightening the work of the housekeeper. The garbage can with the patent lid lift can be purchased at a reasonable price and should be used by every woman.

GOVERNOR WILL PRESIDE OVER CONTEST TONIGHT

Annual Oratorical Competition Will Draw Graduates Back to College—Eight Speakers on Program

Arthur Capper, governor of Kansas, will preside and present the medals to the three winning speakers in the sixteenth annual intersociety oratorical contest to be held in the auditorium of the Kansas State Agricultural college this evening.

Dr. Henry Jackson Waters, president of the college, will introduce the presiding officer to the audience. Governor Capper will respond. The Rev. Lewis Jacobsen, pastor of the First

Baptist church, will pronounce the invocation.

It is estimated that a crowd of more than 2,000 will attend the contest.

This oratorical contest is one of the biggest events of the college year and many an "old grad" returns for it.

The hall is to be decorated by the eight participating societies. Little, however, in the way of stage decorations will be attempted because the winning societies usually have small regard for such trifles, in the mad rush to congratulate their orators and carry them triumphantly from the scene of victory.

After the last oration has been delivered, three minutes will be given to each society for demonstrations, while the decision of the judges is being determined.

At the conclusion of the demonstrations, Governor Capper will announce the winners. They will be called to the stage and presented with the prizes—first, a gold medal and \$25 in gold; second, a silver medal and \$15 in gold; third, a bronze medal and \$10 in gold.

The orators and the titles of their orations are as follows: "The Public School and National Greatness," E. I. Maris, Hamilton society, Nortonville; "The College Graduate and the New Patriotism," Miss Stella Blain, Ionian, Manhattan; "Unto the Least of These," Miss Lillian Lathrop, Eurodelphian, Manhattan; "Individual Preparedness," Miss Hannah M. Campbell, Browning, Utica; "The War Woman," Miss Florence Justin, Alpha Beta, Manhattan; "Our Real Foreign Foe," Leo C. Moser, Athenian, Courtland; "Things Worth While," G. C. Gibbons, Webster, Topeka; "The Great Paradox," L. A. Zimmerman, Franklin, Belle Plaine.

SLIP UP ON THE BUGS WHILE THEY'RE ASLEEP

Get After Orchard Pests During Their Hibernating Time, Advises College Expert

Orchard pests should be dealt with in their hibernation stages, according to Dr. J. H. Merrill, assistant entomologist in the agricultural experiment station, who has charge of the investigation of these insects.

More drastic measures can be used at this time because the sprays will not harm the foliage. To those who wish to combat these pests systematically, a knowledge of the winter quarters is fundamentally necessary.

Many of the insects seek shelter in the weeds and the rubbish at the base of the trees and the removal of this will destroy large numbers. The canker worm spends the winter in the adult stage. The female adults are wingless. As soon as the weather becomes warm the adults emerge.

The peach tree borer passes the winter in the larval stage. Most of these borers are less than half grown, although a few may be matured. The larger ones live in the burrows which they have made in the tree. The smaller ones live in the hibernaculum, or the silken covering formed on the bark of the tree.

The curculio spends the winter as an adult in some hidden place—the soil, it is asserted by some. It is observed, however, that in orchards which border a woodland or hedges the insects exist in larger numbers, pointing to the conclusion that rubbish furnishes a refuge for them.

The codling moth hibernate in the larval state in silken cocoons underneath the scales of loose bark on the fruit trees.

ZOOLOGIST WILL GO AFTER ENEMIES OF KANSAS CROPS

Dr. Lee R. Dice Comes to College After Experience as Investigator for Federal Government

Dr. Lee R. Dice has been secured by the zoology department of the Kansas Agricultural college to teach and to carry on studies in animal behavior with particular reference to the destruction of gophers, prairie dogs, moles, and other rodents. Besides wide experience in the study of mammals in connection with his university undergraduate and graduate studies, Doctor Dice spent two years in Alas-

ka investigating fur bearing animals for the United States government. He has published a number of valuable scientific papers. He holds a bachelor's degree from Leland Stanford Jr. university and master's and doctor's degrees from the University of California.

Doctor Dice will take charge of the Natural History Museum and make available for exhibition and study a large number of valuable specimens which have heretofore not been readily accessible. He will also supervise the mounting and exhibition of some groups of interesting animals which will be represented in their natural homes.

Besides the fundamental studies of animal behavior Doctor Dice will take immediate charge of the serious problem of the eradication of gophers, prairie dogs, moles, and other destructive mammals in Kansas. He will proceed at once to bring together the experiments of others along these lines, especially those of Professors Lantz and Scheffer, formerly of the college, and proceed with further experiments.

DO NOT TRY TO BREAK A HORSE—TRAIN IT INSTEAD

Colt Should Be Educated, and Process Should Start at Early Age, Says Doctor McCampbell

Horses should be educated or trained, and never broken, according to Dr. C. W. McCampbell, assistant professor of animal husbandry at the Kansas State Agricultural college. When one breaks a horse he breaks its spirit and the animal responds wholly through fear.

The education of the colt should begin when it is but a few days old. The first step should be to teach it to be led. This will not take long, and it is a lesson that the animal will never forget. Under average farm conditions draft colts are not handled until they are ready to work, and in this case all they know is to respond to the halter.

"In educating the colt," says Doctor McCampbell, "one should work around it patiently until he has gained its confidence and then get it used to the harness one piece at a time. It should then be driven by the use of the double line.

"Do not attempt to hitch the colt to a load until it is perfectly used to the bit and lines. After the animal is accustomed to the bit and lines and the meaning of the ordinary signs such as 'get up' and 'whoa,' it should then be hitched to a wagon with an old and gentle horse."

Successful horse training depends principally upon two things—horse sense 25 per cent and patience 75 per cent, points out this authority. When these two are combined it is comparatively easy to train or educate any ordinary horse.

Whenever a colt is broken in this manner it has a better spirit and really works with less energy than the colt that is broken by the force method.

CHICKENS HATCH IN SACKS ON COLLEGE POULTRY FARM

Plan Facilitates Keeping of Accurate Records so as to Build up Good Line

Chicks hatch in sacks on the agricultural college poultry farm. On the eighteenth day after the hen is set the eggs are put in individual mosquito netting sacks. This is done so that when the chicks hatch each one will stay with his shell.

On the twenty-second day the chicks are taken out of the incubator and unsacked. Each shell has a number on it—the number of the hen that laid the egg. This number is placed on the records. A numbered band is put on the chick and recorded with the former number.

All records of the egg production and fertility of the parentage of the chicks are complete. In this way the inferior fowls can be weeded out and an improved line produced.

As soon as the chicks are banded they are put into the brooder house. Each brooder accommodates 250 chicks. The brooders are kept at about 100 degrees Fahrenheit.

Water and a hard boiled egg are given to the chicks the first day. The next day they are started right off on a ration of cracked corn, cracked wheat, bran, shorts, and bone meal fed dry. When they are two weeks old beef scrap is added to the ration.

The college chick hatchery is now running full blast. Five hatches are already off and 1,100 eggs are now in the incubators.

An electric incubator has been shipped to the department and will be tried out as soon as it arrives.

ENGLISH DEPARTMENT IN CHARGE OF MACARTHUR

Popular Teacher and Debating Coach Receives Professorship and Will Head Work in Se arson's Absence

Dr. John R. Macarthur, who for a year and a half has been associate professor, has been made professor of



DR. JOHN R. MACARTHUR

the English language in the Kansas State Agricultural college and will head the department during the year in which Prof. J. W. Se arson will be absent.

The latter has been granted a year's leave of absence upon request of the school book commission to prepare first and second readers for the Kansas schools. Professor Se arson will leave the college late in March.

Professor Se arson will be succeeded by Dr. C. W. McCampbell, assistant professor of animal husbandry. He plans to spend considerable time in Boston and New York, where he will study children's literature and methods of primary instruction.

Doctor Macarthur holds degrees from the University of Manitoba and the University of Chicago. He is one of the most brilliant men on the college faculty and has been highly successful as a teacher and debating coach. He was formerly professor and dean in the New Mexico State college.

FOUR GAMES STRAIGHT FROM UNIVERSITY TEAM

Aggies Double Score on Lawrence Men in Last Contest—Hope to Win from Missouri

The Aggies last night took their fourth straight basketball game from the University of Kansas. The score was 45 to 22. The previous evening the college team won 38 to 23. This makes the Aggie team sure of a place near the top of the Missouri Valley conference.

The loss of the two games at Nebraska last week 21 to 20 and 26 to 25 was a disappointment, but the boys are hoping to take two from Missouri here next week.

DEAN JARDINE WILL LECTURE AT YOUNG MEN'S CONFERENCE

Will Speak on Agronomy Before Christian Association in Summer

W. M. Jardine, dean of agriculture in the Kansas State Agricultural college, will lecture on agronomy for two weeks before the rural life conference of the Young Men's Christian association next summer. The addresses will be delivered at the association encampment at Estes Park, Col.

The request for Dean Jardine's services is in line with the policy of the association to prepare its leaders to deal adequately with economic and social problems.

WATCH YOUR SEED OATS

DO NOT RUN RISK OF INTRODUCING JOHNSON GRASS

Product from Texas and Oklahoma Should Be Carefully Inspected by Farmers to Guard Against Growth of Noxious Weed

Kansas farmers who contemplate the purchase of seed oats are warned against the danger of introducing Johnson grass, a noxious weed, through the purchase of seed grown in Oklahoma and Texas.

"The weather of last harvest so seriously injured oats that many farmers of the state have found seed unfit for planting and consequently are forced to obtain seed from outside the state," says L. E. Call, professor of agronomy in the Kansas Agricultural college. "The variety of oats most commonly grown in central and southern Kansas is Red Texas, which is grown extensively also in Oklahoma and Texas.

IT'S HARD TO ERADICATE

"Seed houses and organizations of farmers which are bringing this variety of oats into the state are procuring their seed almost wholly from these two states. Many cars of oats coming from the south and particularly from Texas contain Johnson grass seed mixed with the oats.

"When once established in the central and southern part of Kansas, Johnson grass is difficult to eradicate. It spreads not only by means of seeds, but by large, fleshy underground rootstocks which enable the plants to live from season to season. Annual weeds which spread by seed, such as cocklebur, morning glory, and crab grass, can be eradicated by preventing the plant from seeding. This, however, is not the case with Johnson grass. If the plant is prevented from seeding, it increases in growth and thickness by means of the underground rootstocks.

HOW TO RECOGNIZE SEED

"Every precaution should be taken to prevent Johnson grass from becoming established on the farms of this state. Under no circumstances should oats containing Johnson grass seed be planted.

"It is easy to tell Johnson grass seed in a sample of oats because it is so similar to Sudan grass seed in appearance. Johnson grass has a darker seed than has Sudan grass, although this is not an absolutely certain method of distinguishing the two.

The seriousness of the spread of Johnson grass in this state was recognized by the legislature six years ago, when laws were passed prohibiting the sale of Johnson grass seed and making it unlawful for any person to permit Johnson grass to mature seed upon his land.

THREE STUDENTS RECEIVE SCHOLARSHIP IN MILLING

Honor Offered by Kansas Company Is Awarded by Faculty Committee

Jefferson H. Flora of Manhattan, Joe A. Novak of Ellsworth, and John H. Welsh of Kansas City, Mo., have been awarded the scholarship provided by the Kansas Flour Milling company in milling industry. The value of the scholarship is \$300. The award was made by a special committee consisting of A. A. Potter, dean of engineering; W. M. Jardine, dean of agriculture; J. T. Willard, dean of general science; L. A. Fitz, professor of milling industry.

The Kansas State Agricultural college is one of only three institutions in America offering an extended course in milling industry.

THOMPSON WILL TAKE CROP INFORMATION TO FARMERS

Former Superintendent of Substations Becomes Specialist in Extension Work

G. E. Thompson, formerly superintendent of substations, has been doing extension work for the Kansas State Agricultural college since January 1. He is now specialist in crops in the division of extension, to which position he was transferred January 1, and will conduct crop demonstration work and teach in institutes and extension schools throughout the state.